

THE AMERICAN JOURNAL *of* PSYCHIATRY

**VOLUME 112
NUMBER 12
JUNE 1956**

Official Organ of
**THE AMERICAN
PSYCHIATRIC
ASSOCIATION**

1957 Annual Meeting, Chicago, Illinois, May 13-17, 1957



THE AMERICAN JOURNAL OF PSYCHIATRY

VOLUME 112

JUNE 1956

No. 12

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The American Journal of Psychiatry, formerly *The American Journal of Insanity*, the official organ of The American Psychiatric Association, was founded in 1844. It is published monthly, the volumes beginning with the July number.

The subscription rates are \$12.00 to the volume: Canadian subscriptions, \$12.50; foreign subscriptions, \$13.00, including postage. Rates to medical students, junior and senior internes, residents in training during their first, second, or third training year, and also to graduate students in psychology, psychiatric social work, and psychiatric nursing, \$5.00 (Canada \$5.50). Single issues, \$1.25.

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Editorial communications, books for review, and exchanges should be addressed to the Editor, Dr. Clarence B. Farrar, 216 St. Clair Avenue West, Toronto 5, Ontario, Canada.

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Entered as second class matter July 31, 1911, at the post office at Baltimore, Maryland, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917. Authorized on July 3, 1918.

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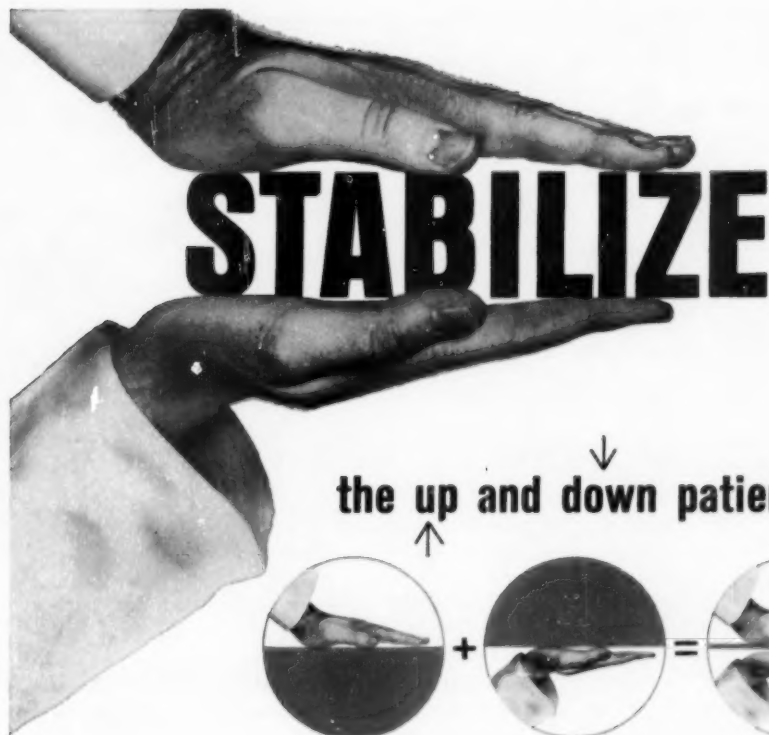
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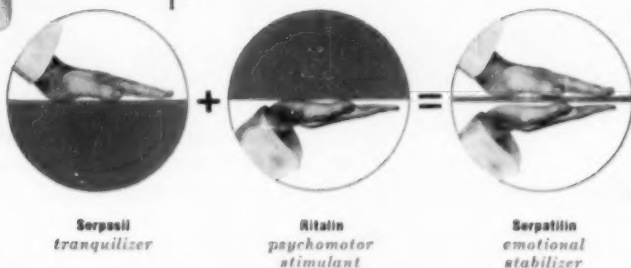
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1. Arnoff, B.: Personal communication. 2. Lazarte, J. A., and Petersen, M. C.: Personal communication.

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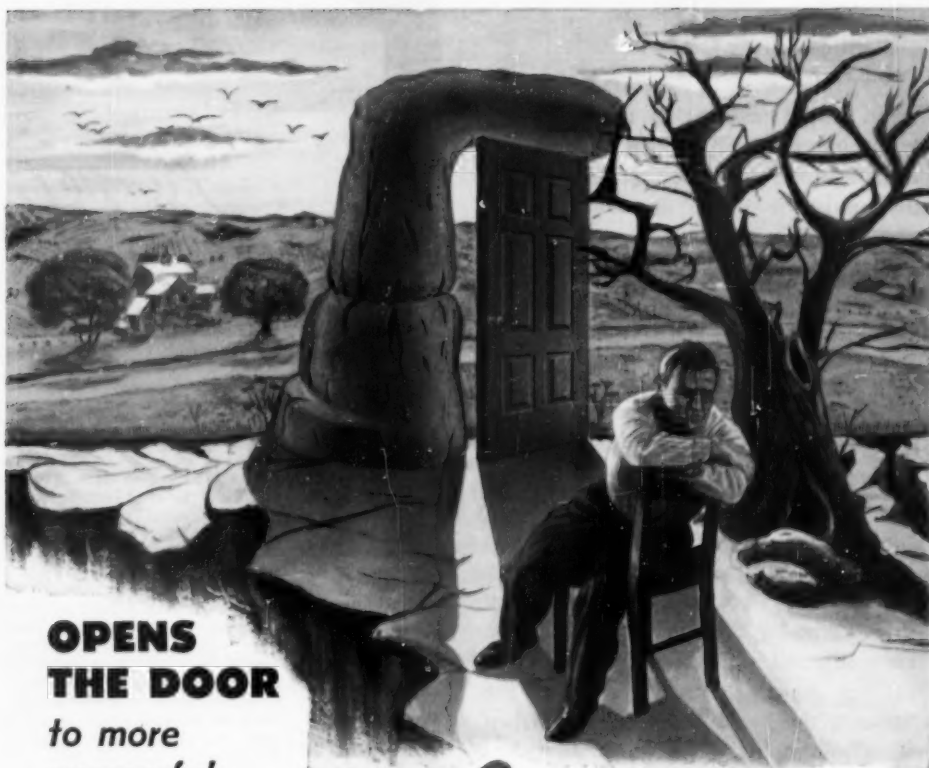
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* Fabing, H. D., and Hawkins, J. R.: A year's experience with FRENQUEL in clinical and experimental schizophrenic psychoses; to be published.

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1. Proctor, R. C.: Report on Frenquel in acute and chronic psychotic states. Presented before the Bowman Gray Medical Society, Winston-Salem, North Carolina, May 16, 1955.
2. Rinaldi, F.; Rudy, L. H., and Himwich, H. E.: The use of Frenquel in the treatment of disturbed patients and psychoses of long duration. *Am. J. Psychiat.*, in press.
3. Fabing, H. D.: Frenquel, a blocking agent against experimental LSD-25 and mescaline psychosis. *Neurology* 5:819, 1955.
4. Fabing, H. D.: New blocking agent against the development of LSD-25 psychosis. *Science* 121:208, 1955.

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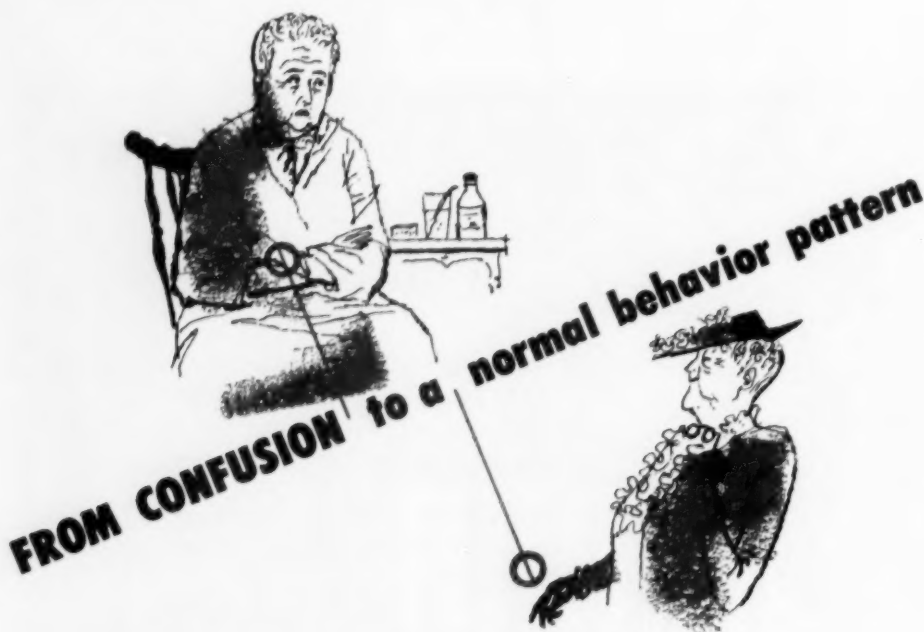
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1. Levy, S. J.A.M.A. 153:1260, 1953.
2. Thompson, Lloyd & Proctor, Rich.
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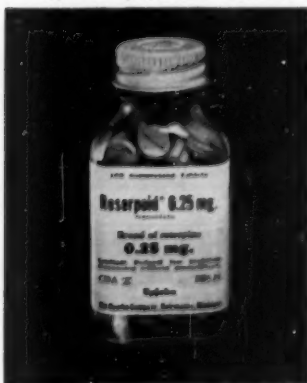
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1. Overholser, W.: in *Chlorpromazine and Mental Health*, Philadelphia, Lea & Febiger, 1955.

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THE USES OF DRUGS IN PSYCHIATRIC RESEARCH¹ABRAHAM WIKLER, M.D.,² LEXINGTON, KY.

Traditionally, drugs have interested psychiatrists mainly because of their possible uses in therapy, and because they are called upon, occasionally, to deal with complications arising out of their use, such as intoxications and addictions. In consequence, the bulk of clinical research on such agents has consisted of therapy-oriented studies, the results of which are expressed in terms of percent "cured" or "improved," and interest in one drug or another has waxed and waned in parallel with initial optimism and subsequent pessimism regarding therapeutic results. This is still true today, and it is readily understandable in view of the urgent needs of the clinic. However, such emphasis on therapeutic results has served to obscure the potential uses of chemical agents in the development of a science of human behavior, upon which rational therapy, pharmacological or other, might be based. To be sure, interest in this possibility is growing—witness the increasing frequency with which the term "experimental psychiatry" is appearing in the literature. Generally, this term is used to refer to research on the properties of the so-called "psychotogenic" or "psychosomimetic" agents, mainly mescaline and LSD-25 (the diethylamide of lysergic acid). Still, it should be pointed out that these drugs, interesting as they are, are not the only ones that can serve as tools for the analysis of behavior. Actually, opportunities for engaging in "experimental psychiatry" have been available to us ever since Noah got drunk and uncovered his nakedness (Genesis 9: 20-23). What is new today, is the increased awareness of such opportunities.

However, before considering some of the data of "experimental psychiatry," it would be well to take up some problems about rationale and methodology. It can be and some-

times is contended(44) that since drugs alter behavior in an "un-natural" or "abnormal" manner, they can yield no information on how the brain functions "naturally" or "normally." The fallacy inherent in this objection can perhaps be revealed best by asking for a definition of "natural" or "normal." In what sense are any of our experimental procedures "natural?" When and where, in nature, do nerve fibers become isolated in a saline bath, or does brain tissue become homogenized in a test tube, or does a particular neural aggregate become stimulated by square wave pulses of electricity of x milliseconds duration and y pulses per second? Or, for that matter, when and where in Creation do people "naturally" lie supine on a couch, associating "freely" out loud, in the presence of an unseen observer who takes notes and maybe listens too? In a very important sense, all of our experimental procedures are "un-natural," for experimentation involves controlling variables, and controlling variables involves alteration of "natural" phenomena in an "un-natural" way. In other words, our conceptions of "normal" brain processes are *constructions* from observations of the effects of isolating variables in an "abnormal" manner, and such conceptions are continually subject to revision as new variables are discovered, the alteration of which modifies behavior. In the accomplishment of this task, drugs which alter behavior can be used as devices for detection and manipulation of significant variables, for this is precisely the sort of investigation that is involved in "explaining" drug actions. Consider, for example, how radically our concepts of the neurophysiological processes relating to sleep and wakefulness have been altered by the discovery of the functions of the basal reticular and the medial thalamic diffuse projection systems, and the important uses to which barbiturates, particularly pentobarbital, have been put in both the detection and the manipulation of these functions(33). Research on the neural mechanisms of sleep and wakefulness, and

¹ The Joseph Graham Mayo Lecture, delivered at the Iowa State University School of Medicine, Iowa City, Iowa, October 31, 1955.

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research on the mechanisms of barbiturate actions have proceeded hand in hand, the one complementing the other. To be sure, the last word has not been said about either, but, here again, the possible need for revision of our concepts can be detected by observations of "dissociations" between EEG "sleep patterns" and concomitant behavior that are produced by certain drugs, such as atropine (53). The reasons for such "dissociations" are not yet clear, but we can expect confidently that when they are explained, our scientific knowledge about sleep and wakefulness will have been advanced still further. Granted that sensing, feeling, wishing, and ideating are infinitely more complex phenomena than mere sleeping or waking, there still would seem to be no rational basis for excluding drugs as legitimate tools in behavioral research.

However, the extension of the pharmacological approach to analysis of behavior at the "psychic" level introduces problems in methodology that are minimal or absent in work with anesthetized or otherwise simplified preparations; namely, that the system under study includes not only an organism, but also the objects of its activity, with which it interacts continually, and that the nature of this interaction is determined not only by the stimulus conditions set up by the observer, but also by the history of previous reinforcements. These factors complicate what would appear to be a simple matter—the description of a "drug effect." For example, let us ask a simple question: What are the effects of morphine or pentobarbital on human reaction-time? The answer is that they depend on the history of the subjects studied, the dose of the drug administered, the situation in which the measurements are made, and the motivational conditions that obtain when the experiments are carried out. Thus, Hill and Belleville (25) have studied such effects under conditions that permitted not only a fair degree of constancy of subject material, dose of drug, and experimental environment, but also control of motivational conditions through manipulation of reinforcements. The subjects, all former narcotic addicts serving prison sentences, were rewarded for voluntary participation in research experiments. Simple visual-manual

reaction-times (RT's) were measured without administration of drugs, after 15 mg. of morphine and after 250 mg. of pentobarbital, injected intramuscularly 50 minutes prior to testing. When a fixed reward was given a week in *advance* of the tests, morphine accelerated and pentobarbital slowed RT's; when a fixed reward was promised (and later, delivered) *after* testing, neither drug exerted any significant effect on RT's; when the amount of the post-testing reward depended on *speed* of performance, morphine exerted no significant effect, but pentobarbital accelerated RT's; when the same group was retested 1-3 days later, with post-testing rewards *fixed* for all subjects, morphine slowed RT's while pentobarbital had no significant effect. In all instances, "acceleration" or "slowing" were relative to control RT's (no drug administered) under each specified reward schedule, since these also varied with changes in motivational conditions. In other words, depending upon such conditions, either morphine or pentobarbital can have no effect, or exert "depressant" or "stimulant" effects upon simple visual-manual reaction times. Generalizing, it may be concluded that, unless it is proven otherwise empirically, the effects of any drug upon any particular measure of behavior will depend on the "state of the organism" at the time and in the situation in which the drug is administered. Furthermore, this "state" must be defined not only in terms of the structural integrity of the organism, its history, and its biochemical status, but also in terms of the activities of the observer.

Acceptance of this principle entails certain consequences regarding experimental design, particularly with reference to the use of controls. Broadly speaking, "controls" are used for the purpose of defining the "activity" and the "specificity" of action of a given chemical compound. This aim is accomplished by manipulating medication, subject material, and observer's activities in such a manner that those conditions are eliminated which are unessential for the occurrence of a selected effect of the compound in question. The compound is said to be "active," to the degree that a selected effect occurs under conditions other than those in which "inert" substances act likewise. It is also said to be

"specific" to the degree that this effect occurs as part of a pattern of actions that cannot be reproduced by other "active" agents. Consequently, "controlling" a drug-testing experiment can present formidable problems. The manipulation of the medication factor involves the use of various substances, "inert" and "active," as "placebos"; subject material in any given experiment should be homogeneous, but various sorts of homogeneous groups should be studied in turn; and last, but by no means least, the observer's activities should be controlled in a way that will permit both variation and replication, for, as already noted, they can be decisive in determining the nature of the effect of a given drug. In this connection, the "double-blind" technic can be extremely useful, provided we do not make the error of assuming that the more "blindly" we proceed, the more truth we shall see. The usefulness of this technic does not lie in the elimination of the observer's activities, for there is no way in which this can be accomplished in "conscious" man. Nor can we assume that an observed drug-effect is "physiological" when the nature of the medication is unknown to the subject and the observer, and "psychological" when either or both is enlightened in this regard. Rather, the "double-blind" technic is useful to the extent that it ensures constancy of the subject-observer interaction factor in any particular investigation. But we need to know also, how a given effect of an "active" and "relatively specific" drug varies under different conditions of subject-observer interaction, whether this be "psychotherapeutic," or other in intent. Our drug-testing experiments will gain in significance if we *elicit* the sorts of behavior that we intend to modify by administration of a particular agent, instead of relying upon serendipity to do the job for us.

Also, some comments should be made about another difficulty that is encountered in human research of any sort; namely, the measurement of the "verbal report" (sometimes called the "subjective response"). There are some who insist that "a telegraph pole is a telegraph pole" (36), while other claim it is anything but that. Such polemics seem to be quite futile, since what a verbal report "means" in any particular instance

can be determined only by testing a number of predictions concerning the subject's behavior, predicated on a number of alternative interpretations of such a report. For example, if a subject says "I am anxious," such testing, perhaps by asking appropriate questions, may reveal that he means "I am fearful," or "I am bored," or "I am impatiently awaiting my reward with pleasurable anticipation." Or such testing may indicate that the statement, "I am anxious," is not a useful predictor of the subject's behavior at all. In that case, the expression is said to mask his "unconscious" feelings, which may be inferred from observation of his nonverbal behavior. Of course, if, after being informed of his "true" feelings, the subject denies them, we may conclude that he lacks "insight," or that he is "psychotic," and such deductions may turn out to be correct, the subject's contrary opinion notwithstanding. In other words, for heuristics purposes at least, verbal reports can be regarded most profitably as instruments for communicating to an observer, in a particular situation, the subject's opinion of his own behavior. If we wish to make use of verbal reports in scientific investigations, we must ascertain precisely what such opinions are, and whether they are "right" or "wrong" in the sense that they do or do not have predictive value. Furthermore, too much emphasis cannot be laid on the determining function of the situation in which verbal reports are made. If, for example, after administration of a drug for "narcoanalytic" purposes, the subject pours out a flood of recollections, fantasies, or other "material" not previously recalled, one must not assume, without further proof (which is often difficult to adduce), that such "material" had been "repressed." He may merely be engaged in seeking metaphors or analogies from previous experience to communicate to the observer his opinion about his altered state in relation to the situation in which the drug has been administered. Or, as Weinstein and Malitz (52) have pointed out, a patient with organic brain disease may say he wants "to be well" before intravenous injection of amobarbital, and that he wants "to play basketball" when under the influence of the drug. There would be no reason to believe that, in this case, a

wish to play basketball had been "suppressed" or "repressed." Rather, the expression appears to be merely a way of repeating, in a more highly personalized manner, that he wanted "to be well."

Finally, all of these considerations should make us wary of accepting any particular mechanism of action of a given drug as the sufficient explanation of its behavioral effects, for "mechanisms" are inferred from observation of the effects of drugs upon isolated variables, and we have, as yet, no conceptual model of human behavior which would permit us to ignore their effects upon variables we have not studied. In the present state of our knowledge (and probably for a long time to come), we must accept the principle of multifactorial determinism, and be ready to revise our concepts as new behavior-determining variables are discovered.

With these premises and provisos, we may now consider briefly the present status of "experimental psychiatry," with special reference to the major trends of current investigations on the most spectacular of all "psychosomimetic" agents, the diethylamide of lysergic acid. The remarkable effects of this compound on man were discovered through accidental self-administration by the Swiss chemist Hofmann in 1943, and they were systematically investigated by Stoll (51), who described his findings in a classical paper published in 1947. In doses of about 30 micrograms administered orally to nonpsychotic individuals, LSD-25 produced autonomic changes, predominantly sympathomimetic, kaleidoscopic visual hallucinations with intense and variegated coloring, hyperacusis, synesthesias, tactile paresthesias, illusions, distortion of body image, feelings of estrangement and "depersonalization," and disturbances of mood, in the presence of unaltered orientation, critical self-judgment and ability to respond to interrogations by the observer. Stoll noted also that these changes were most pronounced when the subject was permitted to remain undisturbed in a darkened room, and the symptomatology changed if excessive "testing" was performed. Since the publication of this report, many studies on the LSD-25 "psychosis" have been made in various institutions in the Western hemisphere, upon subjects with differing back-

grounds, both nonpsychotic and psychotic. Patients with schizophrenia (10) and alcoholics recently recovered from delirium tremens (5) are said to be resistant to the effects of this drug, but, in general, the functional disturbances produced by LSD-25 appear to be the same everywhere to a remarkable degree, provided that the experimental conditions specified by Stoll are approximated. Although individuals differ in the degree of sensitivity to the action of this agent, the intensity of the effects is proportional to the dose. This was demonstrated by Isbell *et al.* (29) in a placebo-controlled study based on measurements obtained with a clinical grading system and also a questionnaire developed by Abramson *et al.* (4) for this purpose. Isbell also showed that tolerance develops rapidly to repeated daily doses of LSD-25, and that it disappears completely 3 days after discontinuing the medication.

There have been few studies designed to elucidate the variations in the behavioral effects of LSD-25 that are contingent upon well-defined variations in the activities of the observer. Such as we have are reports of the use of this drug in psychotherapy. As is usual in the literature on psychotherapy, precisely what the observer does is not stated; one can only guess that some sort of transference relationship had been established prior to administration of the drug, and that during its action, questions were asked, associations were given, and interpretations were made. Under these conditions, visual hallucinations appear to be less prominent, while depersonalization phenomena, weird dream-like experiences, and recollections from the misty past, historical or fantasied, are more pronounced. These are said to arise out of various layers of the patient's "unconscious"—personal (1), collective (47), and even pre-natal (18), having been banished there previously by "repression." It is interesting to note that similar explanations have been offered in the past, to account for the "material" obtained with a host of other drugs, such as barbiturates, carbon dioxide, ether, and methamphetamine, yet, except for limited investigations (31, 27), no serious attempt has been made to test the validity of such interpretations by comparison of the "material" obtained with each drug on the

same patient under similar experimental conditions. However, even if it were established that the "material" was the same in each case, there would still remain the problem of distinguishing "repressed" from merely "new" material. Certainly, "repressed" means something other than "previously not mentioned," otherwise there would be no need for the term. Of course, the expression "repressed material" can be used in a number of senses, but the most important usage seems to be this: that "material" is said to be "repressed" if it is demonstrated that in attempting to recall or express it in a number of "real-life" situations marked disturbances of behavior occur. The experimental demonstration that any drug "releases repressed material" would entail, then, the setting up of a facsimile of an important "real-life" situation (some "transference" situation might do), and probing for such disturbances under placebo and drug conditions, preferably in a double-blind manner. Or, experimental arrangements such as those employed by Luria(32) or Keet(30) may serve the purpose. Parenthetically, studies of drug effects on "repression" so defined can serve also to test this cornerstone of psychoanalytic theory for its predictive utility.

The most widespread interest in LSD-25, however, has stemmed from the supposed resemblance of its effects to the symptomatology of schizophrenia. Opinions in this regard have ranged from sceptical negation(13) to positive affirmation(37). In our own studies, we have been impressed, in connection with this problem, not by the spectacular visual hallucinations and perceptual distortions, but by the more subtle perplexities and "depersonalization" phenomena which some of our non-psychotic subjects have displayed while under the influence of LSD-25, particularly after higher doses. Thus, one of them became quite anxious (meaning "worried") when he looked into a mirror, because he could not decide whether he was standing behind the mirror looking at himself, or whether he was beholding his reflection. Also, he could not decide whether a cigarette he was smoking had been lit by himself or by an attendant—a trivial matter, perhaps, but one which concerned the sub-

ject greatly. Another subject was much preoccupied by the weighty problem of deciding whether a musical instrument in his room was the "real thing" or something else. In such cases, it can be said that "insight" had been lost. In spite of the resemblance of this kind of thinking to that of schizophrenia, the accompanying affect appeared quite appropriate. But, this can also occur early in the development of clinical schizophrenia. Also, LSD-25 is said to produce changes in the Rorschach responses of nonpsychotic subjects which resemble those of schizophrenic patients(12), as well as analogous changes in certain urinary constituents; namely, decreased excretion of inorganic phosphates at rest, and increased excretion of inorganic phosphates after administration of ACTH (43).

There are, then, some grounds for the assumption that the LSD-25 psychosis is an experimental "model" of schizophrenia, although the question is by no means a crucial one from the standpoint of "experimental psychiatry," as this term is used here. More important is how LSD-25 produces its effects upon behavior. Much work has been done recently to relate such effects to the chemical structure of this drug. While LSD-25 is unique with regard to its incredible potency, its effects can be mimicked by other agents, notably mescaline, in larger amounts. It is also stated in the literature that "psychoses" can be produced by epinephrine, amphetamine, bufotenine, yohimbine, and harmine, but I am not aware of the evidence that, when they so do, the symptomatology is identical or nearly so with that produced by LSD-25 or mescaline. At any rate, LSD-25, bufotenine, yohimbine, and harmine all possess an indole nucleus, and while epinephrine, amphetamine, and mescaline do not, their structures are such that it is conceivable that they might be converted into indoles by some as yet unknown aberration of metabolism. Such considerations led the Saskatchewan group(37, 28) to propose that a metabolic error of this sort might be responsible for schizophrenia, and this hypothesis has been developed further by others(17). In particular, Hoffer *et al.*(28) suggested that an error in epinephrine metabolism might be involved, since their experiments indicated

that an LSD-like psychosis could be produced by adrenochrome, an indole-bearing breakdown product of epinephrine. Rinkel *et al.* (43) were unable to produce psychosis by administration of the semicarbazone of adrenochrome, and suggested that adrenoxine might be the essential factor. However, since it is known that the semicarbazone of adrenochrome is relatively inactive, their findings do not invalidate those of Hoffer's group. Still other types of hypothetical metabolic errors have been described by Fabing (17), which could lead to production of indole-bearing hallucinogenic compounds in the "natural" state. Possibly of future importance in the detection of such compounds in body fluids are a number of procedures involving spiders' webs (54), "waltzing" mice (45), wool protein (18), Siamese fighting fish (2) and "mystery snails" (3) which can be used as sensitive test objects. In all of this work, obviously, there is the assumption that schizophrenia is due to a "toxin." Of course, this concept is not new, and De Jong (11), as well as others, spent many years investigating "experimental catatonia" in animals, arriving finally at the conclusion that this "model" of the dread mental disorder is a "General Reaction-Form of the Central Nervous System," which can be induced by a host of diverse stresses, including ligation of the hepatic artery and porto-caval anastomosis. The evidence for a unitary "toxic factor" in the etiology or pathogenesis of schizophrenia is, therefore, not very encouraging, but this does not exclude such a possibility, nor has any alternative hypothesis proved more amenable to experimental testing.

Studies on the biochemical mechanisms that are involved in "psychic" activity have been given a new direction in recent years by the discovery that LSD-25 antagonizes the contractile effects of serotonin on certain smooth muscle preparations (20, 22, 56). The latter substance, 5-hydroxy-tryptamine, contains an indole nucleus and is found chiefly in blood platelets, the enteric mucosa, and the brain (48). That serotonin might play an important role in brain functioning was suggested by Gaddum (21) and by Wooley and Shaw (56) on the grounds that because of their serotonin-antagonistic prop-

erties, "psychosomimetic" agents like LSD-25, yohimbine, and harmine may act as "anti-metabolites," thereby producing a deficiency of serotonin in the brain, with consequent disturbance of mental function. Direct evidence of the effects of serotonin on brain functions has been difficult to obtain, because this substance is readily destroyed by amine oxidase (57), but intraventricular injection of the compound in psychotic patients is said to have produced increased verbal responsiveness and pliability, though without change in thought processes (46). Also, in a series of very recent studies (7, 38, 39, 40, 49, 50) it has been shown that both serotonin and reserpine potentiate the hypnotic action of hexobarbital in mice, that this action of serotonin or reserpine is antagonized by LSD-25, that reserpine reduces the serotonin content of the intestinal tract and the brain in the rabbit, and that this effect is quite specific since it is not produced by morphine, scopolamine, mescaline, barbiturates, yohimbine, amphetamine, cortisone, chlorpromazine, or Frenquel. These investigators view their findings as indicating that serotonin is important in brain functioning, and that reserpine produces its clinical effects by "releasing" serotonin from its bound form in body depots. However, whether such "release" corrects a presumed deficiency of serotonin in patients with mental disorders, or results in the removal of an excess of this substance, is still a moot question. Marrazzi and Hart (35) have shown that serotonin, like epinephrine, adrenochrome, mescaline and LSD-25, "inhibits" synaptic transmission in a "transcallosal" monosynaptic pathway, and suggest that mental disorder may result from an excess of serotonin in the brain—a view in which Himwich (26) concurs, and which Wooley and Shaw also considered (57). Still, the evidence is rather inconclusive, since certain important facts are not accounted for by either hypothesis. Thus, chlorpromazine, the clinical effects of which are in many ways comparable to those of reserpine (especially in the management of psychotic patients), does not "liberate" serotonin, yet it does antagonize the inhibitory effects of mescaline on "transcallosal" synaptic transmission (34). Also, mescaline does not antago-

nize serotonin on any smooth muscle preparation, while LSD-25 does so on some, but not on others(22). Nor has the possibility been ruled out, that whatever serotonin may do in the nervous system, it does so through its vascular actions. Further work on serotonin itself, combined perhaps with the use of inhibitors of amine oxidase, may help resolve these difficulties and establish the significance of this "natural" variable for "normal" brain functioning.

Investigations on the neurophysiological mechanisms of action of LSD-25 have proceeded along two major lines, often combined; namely, its effects on the "spontaneous" electrical activity of the cerebral cortex, and on synaptic transmission and excitability cycles in certain sensory relay and intracortical pathways. The electroencephalographic data on the unanesthetized cat(13), the unanesthetized, curarized rabbit(42), and in man(12, 23, 14) indicate that LSD-25, and also mescaline(8, 53), produce "dysynchronization" of the EEG, and, in some cases, also a slight acceleration of the alpha frequency. Rinaldi and Himwich(42) noted also, that in the rabbit the EEG changes produced by LSD-25 or mescaline are blocked or antagonized in a specific manner by Frenquel, a drug which, according to Fabing(16), blocks or antagonizes the "mental" but not the "physical" effects of these "psychosomimetic" agents in man. Such a "mental-physical" dichotomy would seem to imply that the electroencephalographic and mental effects of these drugs should be highly correlated. However, concomitant recording of electroencephalographic changes and verbal reports concerning hallucinations, fantasies, illusions, etc., after administration of mescaline and other drugs, indicate that these two measures can often be "dissociated"(54). Other data as well seem to suggest that such electroencephalographic changes are quite nonspecific, and may reflect only certain general homeostatic functions of the diffuse projection systems (54).

However, by use of other technics, effects of LSD-25 on neural activity have been disclosed which appear to be more specifically related to the behavioral changes produced by the drug. Evarts and Marshall(15) dem-

onstrated that after intracarotid injection of relatively large doses of this agent in the cat, synaptic transmission in the lateral geniculate body was blocked partially, in a manner similar to that produced for a brief period by a train of stimuli delivered to the optic nerve in untreated preparations. Concomitantly, LSD-25 exerted no such effects on cortical responses evoked by stimulation of optic radiation fibers. Using graded doses of LSD-25, injected intravenously, Purpura(41) demonstrated that this drug exerts facilitatory effects on evoked responses in low doses, but inhibitory effects in higher doses, and that different neural structures vary markedly in their sensitivity to either effect. Particularly, it appeared that LSD-25 exerts a facilitatory effect on synaptic transmission through specific afferent pathways at concentrations of the drug which produce inhibition in the diffusely projecting and intracortical pathways (the latter effect having also been demonstrated by Marrazzi and Hart(35). Furthermore, Purpura suggested that such differential effects of LSD-25 may be related to differences in synaptic arrangements; namely, the predominance of "axosomatic" synapses in the specific, and of "axodendritic" synapses in the nonspecific sensory systems. The facilitating effects of low doses of LSD-25, on synaptic transmission in the "specific" sensory pathways, particularly the visual, appear to be in harmony with the facilitation of "photic driving" of the alpha rhythm in man, which has been described by Gastaut *et al.*(23) and Elkes *et al.*(14). However, in our studies, which are still in progress, this effect of LSD-25 does not seem to be associated in an invariable manner with the mental effects of the drug.

The significance of these data is still not fully clarified, but they do suggest strongly that LSD-25 produces a profound disorganization of the pattern of afferent corticopetal neural activity. Gastaut *et al.*(23) believe that the drug produces decreased "filtering" of incoming sensory signals, and they relate this change to the mental effects of the drug. It is tempting, however, to relate the neurophysiological data rather to the effects of decreased variation in the sensory environment, which, as Bexton *et al.*(7) have

shown, can produce mental disturbances in "normal" subjects which are very similar to the effects of mescaline or LSD-25. In this connection, Callaway(8) has offered an hypothesis which may lend itself to experimental testing. In any case, as Hebb(24) has pointed out, the evidence indicates that "normal" mental activity, including the ability to learn and to perceive, is dependent in part upon an optimal level of sensory stimulation. Possibly we can learn more about the neurophysiological aspects of these functions if we compare the patterns of effects of various drugs on learning and perception with their patterns of effects on neural organization.

In conclusion, it may be reiterated that our "explanations" of the dynamics of human behavior, "normal" or "abnormal," are logical constructions based on the observed results of manipulating relevant variables in a controlled (and hence, "unnatural") manner. Drugs can be used to detect and manipulate such variables, thus providing a means for testing the validity of our current "explanations." Any drug that alters human behavior (for better or worse) can serve the purpose, but LSD-25 is the most widely used in "experimental psychiatry" today, because its effects are readily reproducible, and some of them bear a resemblance to the symptoms of schizophrenia. A review of the evidence presently available indicates that, quite apart from whether such research will enable us to cure schizophrenia with pills or shots, far-reaching advances in our scientific knowledge of the dynamics of human behavior can be expected, if this, rather than the immediate therapeutic aim, is set as our goal, and the appropriate observer-activities are adopted, both in the clinic and in the laboratory.

BIBLIOGRAPHY

1. Abramson, H. A. *J. Psychol.*, **39**: 127, 1955.
2. Abramson, H. A., and Evans, L. T. *Science*, **120**: 990, 1954.
3. Abramson, H. A., and Jarvik, M. E. *J. Psychol.*, **40**: 337, 1955.
4. Abramson, H. A., Jarvik, M. E., Kaufman, M. R., Kornetsky, C., Levine, A., and Wagner, M. *J. Psychol.*, **39**: 3, 1955.
5. Arnold, O. H., and Hoff, H. *Wien. Ztschr. f. Nervenheilkunde u. d. Grenzgebiete*, **6**: 129, 1953.
6. Bexton, W. H., Heron, W., and Scott, T. H. *Canad. J. Psychol.*, **8**: 70, 1954.
7. Brodie, B. B., Shore, P. A., and Pletscher, A. Limitation of serotonin-releasing activity to those Rauwolfia alkaloids possessing tranquillizing action. *J. Pharmacol. & Exper. Therap.*, (in press).
8. Callaway, E. *Ann. Int. Med.*, **42**: 721, 1955.
9. Chweitzer, A., Geblewicz, E., and Liberson, W. T. *Année Psychol.*, **37**: 94, 1937.
10. Condrau, G. *Acta Psychiat. Neurol.* (Copenhagen), **24**: 9, 1949.
11. DeJong, H. *Experimental Catatonia*. Baltimore: Williams & Wilkins, 1945.
12. DeShon, H. J., Rinkel, M., and Solomon, H. C. *Psychiat. Quart.*, **26**: 33, 1952.
13. Ebaugh, F. G. *J.A.M.A.*, **158**: 732, 1955.
14. Elkes, J., Elkes, C., and Bradley, P. B. *J. Ment. Sci.*, **100**: 125, 1954.
15. Everts, E. V., and Marshall, W. H. *Proc. Am. Neurol. A.*, 1955 (in press).
16. Fabing, H. D. *Neurology*, **5**: 319, 1955.
17. Fabing, H. D. *Neurology*, **5**: 604, 1955.
18. Fischer, R. *J. Ment. Sci.*, **100**: 623, 1954.
19. Frederking, W. J. *Nerv. Ment. Dis.*, **121**: 262, 1955.
20. Gaddum, J. H. *J. Physiol.*, **121**: 150, 1953.
21. Gaddum, J. H. *Ciba Foundation symposium on hypertension*, London, 1954.
22. Gaddum, J. H., and Hameed, K. A. *Brit. J. Pharmacol.*, **9**: 240, 1954.
23. Gastaut, H., Ferrer, S., and Costells, C. *Confinia Neurol.*, **13**: 102, 1953.
24. Hebb, D. O. *Am. J. Psychiat.*, **111**: 826, 1955.
25. Hill, H. E., and Belleville, R. E. (to be published).
26. Himwich, H. E. *Prospects in psychopharmacology*. Presidential Address, Soc. Biol. Psychiat., Chicago, 1955 (to be published).
27. Hoch, P. H., Cattell, J. P., and Pennes, H. H. *Am. J. Psychiat.*, **108**: 585, 1952.
28. Hoffer, A., Osmond, H., and Smythies, J. *J. Ment. Sci.*, **100**: 29, 1954.
29. Isbell, H., Fraser, H. F., Wikler, A., and Belleville, R. E. *Federation Proceedings*, **14**: 354, 1955.
30. Keet, C. D. *Psychol. Monogr. No. 294*, **62**: 1, 1948.
31. Lindemann, E., and Malamud, W. *Am. J. Psychiat.*, **13**: 853, 1934.
32. Luria, A. *The Nature of Human Conflicts*. Translated by W. H. Gantt. New York: Liveright, Inc., 1932.
33. Magoun, H. W. *A Neural Basis for the Anesthetic State*. Symposium on Sedative and Hypnotic Drugs. Baltimore: Williams and Wilkins, 1954.
34. Marrazzi, A. S. *Symposium on Psychochemistry*. Proceedings, 1955 (to be published).
35. Marrazzi, A. S., and Hart, E. R. *Science*, **121**: 365, 1955.
36. Meduna, L. J. *J. Nerv. Ment. Dis.*, **121**: 1, 1955.
37. Osmond, H., and Smythies, J. *J. Ment. Sci.*, **98**: 309, 1952.

38. Pletscher, A., Shore, P. A., and Brodie, B. B. *Science*, **122**: 374, 1955.
39. Pletscher, A., Shore, P. A., and Brodie, B. B. Serotonin as a mediator of reserpine action in brain. *J. Pharmacol. & Exper. Therap.* (in press).
40. Pletscher, A., Shore, P. A., and Brodie, B. B. Release of brain serotonin by reserpine. *Proc. Am. Soc. Pharmacol. & Exper. Therapy*, Iowa City, Iowa, September 1955.
41. Purpura, D. P. Electrophysiological analysis of psychotogenic drug action on the evoked potentials of the cat's brain. *Proc. Am. Neurol. A.*, 1955 (to be published).
42. Rinaldi, F., and Himwich, H. E. *Science*, **122**: 198, 1955.
43. Rinkel, M., Hyde, R. W., Solomon, H. C., and Hoagland, H. *Am. J. Psychiat.*, **111**: 881, 1955.
44. Rothlin, E. *Die Zentralnervoesen Wirkungen von Heilmitteln*. Stuttgart: Georg Thieme Verlag, 1-39, 1954.
45. Rothlin, E., and Cerletti, A. *Helvet. Physiol. Pharmacol. Acta*, **10**: 319, 1952.
46. Royal Society of Medicine. *Lancet*, **1**: 900, 1955.
47. Sandison, R. A. *J. Ment. Sci.*, **100**: 508, 1954.
48. Shore, P. A., Pletscher, A., and Brodie, B. B. Release of platelet serotonin by reserpine: Effect on hemostasis. *Proc. Am. Soc. Pharmacol. & Exper. Therap.*, Iowa City, Iowa, September 1955.
49. Shore, P. A., Silver, S. L., and Brodie, B. B. *Experientia*, **11**: 272, 1955.
50. Shore, P. A., Silver, S. L., and Brodie, B. B. *Science*, **122**: 284, 1955.
51. Stoll, W. Schweiz. *Arch. f. Neurol. u. Psychiat.*, **60**: 1, 1947.
52. Weinstein, E. A., and Malitz, S. *Am. J. Psychiat.*, **111**: 198, 1954.
53. Wikler, A. *Proc. Soc. Exper. Biol. & Med.*, **79**: 261, 1952.
54. Wikler, A. *J. Nerv. & Ment. Dis.*, **120**: 157, 1954.
55. Witt, P. N. *Experientia*, **7**: 310, 1951.
56. Wooley, D. W., and Shaw, E. *Proc. Nat. Acad. Sci.*, **40**: 228, 1954.
57. Wooley, D. W., and Shaw, E. *Brit. Med. J.*, **2**: 122, 1954.

EXPERIMENTAL PSYCHOTIC STATES

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The production of temporary psychotic states by such drugs as cannabis indica, mescaline, and cocaine has long fascinated not only psychiatrists and psychologists but also writers and philosophers. Although systematic psychiatric research on artificial psychoses dates from Kraepelin's work in 1883, addicts have taken such drugs from early times. Cannabis indica addiction is recorded as early as the first century A.D. Mescaline was taken in the form of the cactus peyotl by the Indians in the Aztec era before the conquest of Mexico by Cortez. The Indian use of mescaline to produce ecstatic hallucinatory states for special religious ceremonies was described in 1896 by the anthropologists Prentiss and Morgan. One year later, an account of a mescaline induced psychosis was given by Havelock Ellis(1) but his paper attracted little attention, probably, as Mayer Gross(2) suggests, because it was obviously regarded as the product of an artist writer's wild phantasy. Very dramatic descriptions of experiences under the influence of drugs have been given by De Quincey (*Confessions of an English Opium Eater*), Baudelaire (*Les Paradis Artificiels*), and more recently by Aldous Huxley (*The Doors of Perception*). A graphic account of visual hallucinations experienced during a mescaline psychosis was written by Weir Mitchell(3).

Stars sparkled and passed away. A white spear of grey stone grew up to a huge height and became a tall richly finished Gothic tower of very elaborate and definite design, with many rather worn statues standing in the doorways or on stone brackets. As I gazed every projecting angle, cornice and even the face of the stones at their joinings were by degrees covered or hung with clusters of what seemed to be huge precious stones but uncut, some being more like masses of transparent fruit. These were green, purple, red and orange, never clear yellow and never blue. All seemed to possess an interior light and to give the faintest idea of the

perfectly satisfying intensity and purity of these gorgeous colored fruits is quite beyond my power. All the colors I have ever beheld were dull as compared to these.

The discovery in 1943(4) of the psychic effects of D-lysergic acid diethylamide, a semisynthetic derivative of rye ergot, has reawakened interest in the effects of drugs on the personality. The claim has been made that lysergic acid and other hallucinogens produce a schizophrenia-like state in normal persons. As many psychiatrists today continue to believe that schizophrenia is based on a primary organic pathology, it is not surprising that research on hallucinogens has largely been directed toward a search for a possible biochemical aetiology of schizophrenia. Hoffer, Osmond, and Smythies(5), impressed by the similarity in the molecular structure of mescaline and adrenaline, investigated adrenochrome, a metabolite of adrenaline. They found the adrenochrome produced a temporary psychotic state, but Rinkel and others(6) were unable to confirm these findings. The latter authors believe that adrenoxine, another metabolite of adrenaline, is perhaps the active agent in producing a temporary psychosis. Osmond and Smythies(7) have suggested the possibility that a natural error in the metabolism of adrenaline may give rise to schizophrenia.

The claim that hallucinogens induce a schizophrenic-like state is, however, open to question. The mental state produced by hallucinogens will be considered on the background of experience gained as the result of administration of lysergic acid to a mixed group of 50 psychotic and neurotic patients. In addition, the writers experimented on themselves. The use of lysergic acid in the clinical practice of psychiatry will also be reviewed.

THE LYSERGIC ACID PSYCHOSIS

Remarkably small doses of lysergic acid are required, and in some persons 0.02 mg. is sufficient to produce a psychosis. Psychotic patients are resistant to the effects of the

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drugs and require up to 6 micrograms per kilogram body weight. In the present series, nonpsychotic patients were given 1-3 micrograms per kilogram body weight. The effects appear within $\frac{1}{2}$ to 1 hour, reach their maximum in 2 hours, and may persist for as long as 12 hours. Physical symptoms may include feeling of weakness, dizziness, palpitations, loss of appetite, and nausea. These symptoms seldom cause marked discomfort. Physical signs include elevation of the blood pressure, increased pulse rate, dilatation of the pupils, slurring of speech, and ataxia. One patient with hypertension developed auricular fibrillation which disappeared without treatment within 24 hours.

The most striking feature of the mental state of the lysergic acid psychosis is the wealth of visual disturbances, which were present in 26 of the 50 patients examined. The visions have been well characterized by their lavish colors and more-or-less geometric forms, all of which are in perpetual movement. One patient described seeing Spanish dancers performing, another thought an attendant had horns on his head and hands like claws. A nurse's face was thought to be covered with parallel strips of scotch tape while another nurse looked like Satan. Intensification of colors is frequently noted. Objects perceived may seem to change their form. Anxiety is heightened by the blurred, uneven outline of buildings and faraway objects. The floor seems to be undulating like ripples on the surface of a lake. The walls of the room appear to move backward and forward. A feeling of wide-open spaces may suddenly change to a sense of constriction as the walls and nearby persons seem to close in forbiddingly. There seems to be no limit to the variety of visions that lysergic acid can produce. Illusions similar to those seen in delirium are common, especially when the patient is in a darkened room. One of the writers, while attending a lecture in the evening, 10 hours after taking lysergic acid, was distracted by the sight of peacocks on the carpet and a small scab on the hand gave rise to the illusion that an insect was there. The peacocks and other birds on the carpet were recognized as false perceptions but repeated attempts were made to brush the imagined insect off his hand. Synesthesiae,

for example, visual hallucinations induced by acoustic stimuli, did not occur in the present series.

Auditory hallucinations occurred for the first time in 7 patients, only 2 of whom showed psychotic (schizophrenic) symptoms apart from the lysergic acid experience. Hallucinations of smell and taste did not occur, although loss of sense of taste was commonly present. Almost one-third of the patients suffered severe symptoms of depersonalization, and these were often a source of much anxiety. Disturbances of space perception have been mentioned. Time perceptions may also be distorted. Time may pass very quickly giving rise to a striking sense of urgency. Every request must be attended to without the slightest delay. One patient thought he had been given the drug the previous afternoon. Conversely, time may pass very slowly and complaint may be made of a sense of timelessness.

Sexual excitement is not usually provoked by lysergic acid and occurred in only 3 cases.

Mood changes usually occur in the direction of mild euphoria, especially in the early stages. Patients may make facetious remarks or laugh for no apparent or for inadequate reason. Yet, paradoxically, the patient's statements of well-being or even ecstasy may be accompanied by an appearance suggestive of an acute anxiety state. There may be wringing of the hands, restlessness, or a tense, nervous attitude with a facial expression of great apprehension and fear. The mood though usually euphoric may fluctuate considerably and the patient may become irritable, anxious, fearful, or depressed. Anxiety is commonly present at intervals during the lysergic acid experience and in some cases is the predominant affect. Rarely the mood throughout may be one of depression. Two depressed patients developed severe stupor and in one this persisted until terminated with electrotherapy. Behavior is related to the underlying emotional state.

Increased pressure of speech was noted in more than half the patients while a reduction in speech was present in about a third. Several patients either did not speak at all or made only brief replies to impersonal questions. At the height of the psychosis several patients appeared reluctant to discuss their

experiences. One of the writers found the phantasy world so entertaining that he became impatient when asked to describe it. The experience was too satisfying and the time too precious to be spent in describing this state of ecstasy. He felt he was floating in space, his mind separated from his body, and that he was passing the observers by in space. Furthermore, he thought that the observers, too, were participating in this experience and that it was, therefore, pointless to answer their questions. Several patients complained that their thoughts would suddenly disappear. Perseveration, flight of ideas, increased distractibility with impairment of concentration, difficulty in grasping the meaning of complex statements and incoherence were features of the thought disorders present. These symptoms varied in degree from one patient to another but were more prominent when large doses of lysergic acid were employed. Paranoid ideas were common, even in patients who had not previously shown paranoid symptoms. Frank paranoid delusions rarely occurred except in paranoid schizophrenic patients. One such patient relived a battle scene on Guadalcanal. He thought he was being attacked by the Japanese and he smashed several pieces of furniture protecting himself from his imagined enemies.

Of the 50 patients examined, 21 showed a state of clear consciousness; 12 showed, at times, slight confusion, but were able to concentrate effectively when special effort was demanded; 11 showed slight confusion throughout; 3 showed gross confusion, and 3 were stuporous. Clouding of consciousness, when present, varied in degree and was characterized by disorientation, impaired concentration and attention, incoherent thinking, and difficulty in grasping the meaning of simple statements. Symptoms suggestive of a toxic organic state have been reported by others (4, 8, 9, 10). The lysergic acid psychosis may be terminated by intramuscular injection of Thorazine or intravenous injection of sodium amytal.

Some caution is indicated before drawing the conclusion that lysergic acid induces a schizophrenia-like mental state. In both lysergic acid psychosis and acute schizophrenia, patients experience symptoms foreign to

their previous life experiences. In both disorders, patients find difficulty in describing their peculiar feelings and experiences. It does not, however, necessarily follow that their strange experiences are identical. The low incidence of auditory hallucinations in the lysergic acid experience is in striking contrast to their high incidence in schizophrenic patients. Furthermore, while visual hallucinations may occur in schizophrenia, they do not frequently occur nor is it usual to find the wealth of abnormal visual perceptions that are such a striking feature of the lysergic acid psychosis. The frequent occurrence of visual hallucinations and illusions is suggestive of an acute delirious state, and Stoll (4) is of the opinion that lysergic acid induces an intoxication of the acute exogenous reaction type. The wide variation in clinical pictures that may be induced by lysergic acid is comparable to the variation seen in delirious states. This variation is related to the varying personality and psychological conflicts of the patients tested. In general, the psychotic patients responded to lysergic acid by becoming more psychotic with accentuation of their previous symptomatology. Fresh symptoms, when they appeared, were consistent with the previous diagnosis or suggestive of a clouded state. Nonpsychotic patients responded to lysergic acid by showing an exaggeration of their personality trends. Thus schizoid or cyclothymic traits were seen in a more intensified form or even in caricature. Once again clouding of consciousness sometimes complicated the picture. It is of interest to note the reported reactivation by lysergic acid of the original psychosis, whether it be depression or schizophrenia, in patients whose symptoms have previously been relieved by lobotomy. Previous experience with mescaline is pertinent. When this drug was administered to schizophrenic and delirious patients, it was found that the schizophrenics differentiated mescaline hallucinations from their endogenous sensations whereas delirious patients did not.

It is significant that in the lysergic acid psychosis profound psychic changes may take place with relatively clear consciousness. It would appear that lysergic acid psychosis is not identical in form with any of the known, naturally occurring psychoses. The resem-

blance to a toxic delirious state is greater than the resemblance to schizophrenia.

Clinical experience with hallucinogens provides an insecure foundation for a search for a biochemical origin of schizophrenia. On the other hand, hallucinogens may well prove valuable in the further study of the psychological nature of psychotic processes.

HALLUCINOGENS IN THERAPY AND DIAGNOSIS

Guttman and MacClay (11) recommended mescaline for the treatment of depersonalization. The results have been disappointing as mescaline is able to improve only temporarily depersonalization symptoms insofar as they consist of changes in the surroundings (de-realization) but not of the self. Mescaline and lysergic acid have also been used to facilitate recall of repressed memories particularly past infantile experiences. Sandison (12) claims that lysergic acid is unique in that the recovery of repressed childhood memories is associated with a change of body image so that the patient feels he is transformed into the child he was at the time of the traumatic experience. According to Sandison, the patient can actively describe the age at which he feels himself to be and relives with extraordinary clarity events of emotional significance which occurred at that age. Certainly hallucinogens do aid in the recovery of repressed memories and therapeutic abreaction of past events may be encouraged. In the present series of cases, the clinical impression was that lysergic acid compares unfavorably with intravenous sodium amytal as a means of eliciting repressed memories. In 5 patients subsequent use of sodium amytal was more effective in this regard.

Lysergic acid like other drugs may act as an agent of suggestion. Sloane and Lovett Doust (13) report that a healthy person who was under the false impression that he had been given lysergic acid complained of depression, lability which he likened to alcohol intoxication, restriction of the lateral fields of vision, slight deafness, dulling of smell, feelings of pressure and fever, loss of libido and of sense of time combined with difficulty in thinking and finding correct words! As an aid to suggestion, lysergic acid has obvious drawbacks.

Cattell (14) reported unfavorably on the use of mescaline in therapy:

In our material some release of formerly repressed ideation and affect was noted, but this was fragmentary, unpredictable and did not prove useful to the patient. The nature of the mescaline situation precluded the development of transference phenomena in most instances, thus obviating the possibility of analyzing these. The usual drug free defence mechanisms and resistances were altered in the direction of simplification. Therefore, analysis of these, even if possible, might not be particularly pertinent. There is no indication that mescaline can serve any useful therapeutic end as employed in the present study.

Lysergic acid frequently relieves depressive symptoms temporarily but it has not proved of value in the treatment of depression. Sandison (12) reports that lysergic acid is of value in the treatment of obsessional neurosis. Doses of 25 to 400 micrograms were given from 6 to 40 times in combination with skilled psychotherapy. These results have not yet been confirmed by other workers and it is difficult to assess the relative importance of the lysergic acid and the psychotherapy in Sandison's cases.

Drugs that induce a temporary psychosis would need to have undoubted therapeutic effects, not possessed by other drugs or somatic therapies, before they would be generally accepted in psychiatric practice. Satisfactory evidence of such therapeutic properties has not yet been demonstrated.

Although lysergic acid sometimes accentuates the clinical picture it was not of value in aiding differential diagnosis.

PERSONAL EXPERIENCE OF LYSERGIC ACID PSYCHOSIS

The self-administration of lysergic acid or other hallucinogen by the psychiatrist is an instructive but painful experience. Weir Mitchell, following a mescaline intoxication, feared that the temptation to call again the enchanting magic of the experience would be too much for some men to resist. Not everyone who has experienced a drug-induced psychosis would share his opinion. Without danger, the psychiatrist may experience hallucinations, illusions, depersonalization, and other symptoms that he sees in his patients.

Fluctuation in insight was an alarming experience following the self-administration of

a relatively large dose (900 micrograms per kilogram body weight). At the height of the psychosis, insight was lost, yet, apart from symptoms of depersonalization and derealization, the experience was neither frightening nor unpleasant. There then occurred brief periods of awareness of the origin of the symptoms. An attempt would be made to pass on this new insight to others present, but before the explanation could be completed, the subject became aware of a loss of grasp of the situation. The resultant feeling of perplexity and anxiety would be heightened by the sudden appearance of alarm and concern on the faces of bystanders. Then insight would be lost completely and the feeling of anxiety would disappear at the same time. This cycle of events was repeated many times before insight returned permanently. Although each cycle was, in fact, very brief, subjectively it seemed prolonged because of severe distortion in time perception.

The period of partial insight with its accompanying severe anxiety may be analogous to the acute anxiety seen in schizophrenics who temporarily are experiencing a period of doubt as to the reality of their delusional world.

During periods of great anxiety the presence of familiar faces or the perception of nurses in uniform or white-coated physicians frequently served to dispel the anxiety and favor a return to reality. The reassuring effect of these persons was of course lost when they appeared alarmed or concerned themselves. On occasion, some members of the staff would enter the room for some purpose not concerned with the experiment, and their activity, whether to obtain some medication or syringe from the medicine cabinet, served to increase anxiety. These experiences may have some value in regard to the treatment of a near-panic state in an acutely ill psychotic patient.

Another physician present during the earlier part of the test made the following observations:

The subject was sitting in a chair and showed trembling of the lips, dilatation of the pupils, perspiration on the hands and face, and seemed generally to be verging on a panic state. However, any suggestion that such was the case met with denial. In fact, he maintained that he was in a state of bliss and that no one could possibly understand

the wonders that he was going through. He seemed to be acutely conscious of his tenuous grasp on reality and he would grasp the wooden sides of the chair, as if to reassure himself that they were really there and to evaluate just what part they played in his environment. He would grasp the dictaphone handle in order to prove to himself it was real. He remarked often that he was above everyone else in space. He looked out of the window and described a nearby building as merging into itself and floating. He seemed anxious to have people around him and there seemed to be a childlike fear of being alone. He became disconcerted when everyone in the room stopped asking him questions and he appeared to be going farther from reality at these times. At first, when questioned directly about thoughts or impressions, he talked about his feelings of bliss but later became evasive and uncommunicative.

The following record is a description of the lysergic acid experience of one of the writers:

I was very anxious before the experiment. The solution of lysergic acid tasted bitter. After 20 minutes, I began to feel a little drunk, slightly dizzy. An alcohol sponge box lay open on the table 2 feet away from my face, and I sensed an unpleasant, acrid smell of alcohol. The unpleasant sensation remained after I closed the box.

The floor was made of plastic tiles, of a solid background color, with an irregular, colored overlay pattern. These colors, green and red, began to shift about and move, rather like a kaleidoscope.

During these initial experiences the anxiety became frightful. I had the sensation of waves of anxiety, during which I could not speak, but only wait for the wave to pass. I felt as if I were shivering like a wet dog, but was surprised, when I looked at my hands, to see that they were not trembling nor sweating and that their color was normal.

Continuing to look at my hands, I felt they were changed. They belonged less to me. They were elongated, and I thought of hands painted by El Greco. I was startled to discover that I could move one of those thumbs.

I sat in a chair, did not move, and spoke in a fairly connected and correct way, although rather more carefully than usual. Throughout the experiment, I had a strong wish to control my behavior, not to act or speak in an abnormal way. I, therefore, attempted to limit myself to experiencing hallucinations, primarily visual and describing them aloud.

For some time after the floor patterns began to move, other objects were normally perceived. I walked, when asked to do so, with normal coordination. I did not want to walk, however, for fear of incoordination. Later, the walls began to move, waving back and forth as if they were curtains being blown by a wind.

I took great comfort, throughout the experiment in seeing and hearing the physician, a friend, who was conducting the experiment. I was also very pleased when a nurse, whom I like and respect, came briefly into the room. I controlled the wish

to embrace her, or to tell her that I liked her. On the other hand, when another woman, whom I dislike, came into the room, and dawdled out of curiosity, I was very irritated, and had to control the wish to say something abusive to her. I was much more aware of my old reasons for disliking her than of the current irritation.

During the experiment, it seemed to me that I could stop an hallucination or a misperception, by fixing my eyes on certain objects. These tended to be linear, as the edges of the floor tiles or the legs of a table.

During most of the period of intoxication, my time sensation was badly distorted. During the acute hallucinatory episodes, I had the feeling that they had lasted for hours. I was, however, able to correct this misconception. When asked by the experimenter, I was able to approximate the actual time. This was done by a process of remembering real things that had happened, such as remarks made, or movements in the room, and then estimating how long these would take, thereby arriving by this cumbersome way at a fairly accurate evaluation of real time.

The first frank hallucination was of a 3-dimensional chess board, made of clear plastic, and containing some pieces. The pieces seemed to be knights, but then I could see clearly that the tops of the pieces were in the form of roosters' heads, brilliantly feathered, with the beaks somewhat menacing.

When an hallucination appeared, I lost all perception of the room in which I was, and the things in it. Sometimes, but not always, I closed my eyes. I had a sensation (or perhaps a secondary elaboration, a kind of dream-work) that I was physically leaving the room and traveling to the place of the hallucination.

I had repeatedly the hallucination of a "feathered tapestry." Even in the intoxication, I compared this tapestry to the feathered cloaks of Inca nobles, and to the breast of a pheasant cock. The tapestry was repeatedly described as being composed of a background of interwoven brown feathers, perhaps pheasant feathers, in which could be seen "jeweled highlights" of red, blue, and green. This screen was perceived with considerable pleasant affect. I complained very bitterly of extreme anxiety during the intoxication. With the anxiety, I felt very chilly. At the times when I was seeing the feathered screen, the anxiety was reduced and I spoke of a feeling of warmth, affection, and comfort.

Later, in associating to the experiences of the intoxication, I thought of the feathered tapestry as a possible dream screen (Isakower phenomenon). During the intoxication, I perceived the feathered tapestry preceding other visual hallucinations of much greater complexity and with apparently more content. I could not see the feathered tapestry as a background for the other hallucinations. There was, nonetheless, in the other visual hallucinations, as a kind of constant theme, the same brown hue seen in the feathered tapestry. Two further associations may be mentioned. One is that I was cared for in early infancy by a Negro nurse for whom

I maintained, until the present day, considerable affection. Secondly, because of some unusual circumstances in my current life situation, my family being away, my house was in the hands of a Negro housekeeper who was, at the time of the lysergic acid experiment, giving me my meals, and otherwise taking care of domestic duties.

There was then a series of hallucinations during which I was in a distant, ancient land, surrounded by people, domestic animals, and normal vegetation. In all of these I felt that there was some problem, some piece of work, in which, under my leadership, we were all engaged. Once it was getting a large cart, with two crude wooden wheels, up the bank out of a streambed. In another, people were storing away the harvest, with a feeling of extra urgency, as if an invader were expected. In still another, a band of 20 men, armed with bows, axes, and swords, were going through a wood, either to war or to hunt. Another hallucination was of an oasis, with white-robed Arabs, wearing white fezzes. The point of departure for this, about 2 hours after the experiment was begun, was the white coat of the experimenter.

In these hallucinations, there were details which I knew, after recovery, to be bizarre. In that country at that time, wool and linen were the common materials for clothing. The men I saw wore a great deal of leather. Fezzes are not white.

At various times, emotional complexes such as loneliness, fear, courage, responsibility, sadness, and pity were strongly felt. These seemed, in the intoxicated state, not to have the usual values, not to be compelling, and not to require behavior based upon them.

The recovery period was also painful. I was much preoccupied with thoughts of recovery from the intoxication. Wishes to be free of it alternating with great fear of being unable to recover from it combined to make a most unpleasant period of the experience. I wondered whether there were not some antidote to terminate the intoxication. Somewhat later when the most dramatic aspects of intoxication were over, I was concerned with real life responsibilities. In fact, there was no problem that demanded my immediate attention but I seized upon several which would demand my attention in the next few hours or the next day, and was extremely fearful that I might not be sufficiently recovered when the time of need came, to deal adequately with these problems.

CONCLUSIONS

The use of drugs such as mescaline and lysergic acid diethylamide for the experimental production of temporary psychotic states continues to offer unique opportunities for further research. The discovery that a metabolite of adrenaline induces an experimental psychosis suggests the possibility that an error in adrenaline metabolism may be an

etiological factor in some naturally occurring psychoses. Experimental psychoses, however, are not identical in form with any naturally occurring ones although there is resemblance to delirium and, to a lesser extent, to schizophrenia.

Lysergic acid does not possess therapeutic value sufficient to justify its use in psychiatric practice other than on an experimental basis. As a means of releasing repressed material, it is less effective than intravenous sodium amytal. Self-administration of an hallucinogen by the psychiatrist permits subjective experience of psychotic symptoms.

ACKNOWLEDGMENTS

We wish to thank Drs. William Conte and Philip R. A. May who collaborated in the clinical examinations. We are indebted to Sandoz Pharmaceuticals for a generous supply of lysergic acid.

BIBLIOGRAPHY

1. Ellis, Havelock. *Lancet*, 1: 1540, 1897.
2. Mayer Gross, W. B. M. J., 2: 317, 1951.
3. Mitchell, S. W. B. M. J., 2: 1625, 1896.
4. Stoll, W. A. *Schweiz. Arch. Neurol.*, 60: 279, 1947.
5. Hoffer, A., Osmond, H., and Smythies, J. J. *Ment. Sci.*, 100: 29, 1954.
6. Rinkel, M., Hyde, R. W., Solomon, H. C., and Hoagland, H. *Am. J. Psychiat.*, 111: 881, 1955.
7. Osmond, H., and Smythies, J. J. *Ment. Sci.*, 98: 309, 1952.
8. Savage, C. *Am. J. Psychiat.*, 108: 896, 1952.
9. Anderson, E. W., and Rawnsley, K. *Monatsschr. Psychiat. u. Neurol.*, 128: 38, 1954.
10. Blickenstorfer, E. *Arch. Psychiatr.*, 188: 266, 1952.
11. Guttman, E., and MacClay, W. S. *J. Neurol. Psychopathol.*, 16: 193, 1936.
12. Sandison, R. A., Spencer, A. M., and White-law, J. D. A. *J. Ment. Sci.*, 100: 491, 1954.
13. Sloane, B., and Lovett Doust, J. W. *J. Ment. Sci.*, 100: 129, 1954.
14. Cattell, J. P. *J. Nerv. Ment. Dis.*, 119: 233, 1954.

CONTRIBUTIONS OF ANTHROPOLOGY TO PSYCHOSOMATIC MEDICINE

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"It seems that most psychiatrists, physiologists, or social scientists are too deeply specialized and immersed in their own disciplines to be able to observe accurately the relationships or bridges to other disciplines involved in studying co-variables. Each, however, should indicate when and where his observations lose their sharpness and when other specialists at different positions in the total field are necessary."

Roy Grinker (18).

The advent of psychosomatic medicine as a formal branch of medicine may be dated from the publication of Flanders Dunbar's *Emotions and Bodily Changes* in 1935. The growth, development, and pervasive influence of psychosomatic medicine upon medicine as a whole has been truly spectacular. Anthropologists have from the first been among the most sympathetic students and supporters of psychosomatic medicine. Anthropologists had known for many years, from observations made in the field on non-literate peoples, that feelings and somatic functions were closely interrelated. Indeed, when examples of such relationships were published in the 'twenties the "stories," as they were called, were frankly disbelieved. The phenomenon of "Voodoo death" is a case in point. A man finds that he has broken a tabu the punishment for which is inevitable death. Up to the moment of this discovery he was in excellent health, but from that moment he wastes away and in a short time dies. Under special circumstances, such as the dispensation of the chief or the skill of a medicine-man, the process of dying is reversible, and what have appeared as miracles to white doctors who have been unable to do anything for the condemned victims, have been achieved in a few minutes by the properly qualified medicine-man. Cannon (7) has beautifully described the physiology of "Voodoo death," and many studies since, particularly those of Selye (67, 68), have further illuminated the nature of the psychosomatic relationships involved.

While the anthropologist did not understand the nature of these relationships, he had no doubt as to the reality of "Voodoo death," but what is more important than that: as a student of the group rather than of the individual the anthropologist understood *why* the

phenomenon must be a real one even though he might not understand *how* it came about that it was. In other words, being familiar with the organization of the group and its ideology, the anthropologist could understand why certain acts should lead to certain other acts, without necessarily being able to give a description of the physiological changes involved. The anthropologist could point to the obvious relationships, it was up to the physiologist to analyze them and demonstrate their psychosomatic meaning.

It is because the anthropologist deals with peoples whose psychosomatic functions have been culturally organized in differing ways that it has become a good general rule for those who are in any way interested in human beings to adopt the slogan: Where the anthropologist indicates a relationship, it is well to pay attention. Of not altogether unpsychosomatic relevance in this connection is the fact that our whole conception of the physiology of puberty, nubility, and reproductive development has been developed in recent years in great part as a result of the claims of field anthropologists that unmarried postpubertal girls in nonliterate societies hardly ever have babies even where premarital sexual intercourse is the rule. Since our dictionaries have always insisted upon the fact that puberty is the age at which a girl becomes capable of procreation, this constituted another of those anthropological "stories" which it was difficult to believe. It outraged common sense and it outraged the laws of nature. But the fact is that too many independent anthropologists kept on returning from the field with similar stories. It was not, however, till the publication of Malinowski's *The Sexual Life of Savages* (38) in 1929 that the problem of "adolescent sterility" was brought more widely to the attention of

physiologists(22, 23). Experimental work on mice(14, 46) and on monkeys(21, 22, 23) showed that "puberty" was by no means characterized by a particular physiological change, but that it was in itself a complex step-like process involving many physiological events which do not normally prepare the organism for procreation until other physiological events have transpired. In the monkey it was shown that the earliest postpubertal cycles were usually anovulatory(22, 23), and it was reasoned that this was probably so in postpubertal human females(22, 48, 49). Laqueur(37) subsequently demonstrated the anovulatory cycles in the postpubertal human female, and the whole problem was subsequently worked out for the human female by Montagu(51, 52). As a result of this work it was subsequently shown that the same phenomenon occurred in birds(59), and was for the first time demonstrated in a male mammal by Webster and Young(72) in 1951.

This interstimulation of anthropologist and physiologist has resulted not only in the undertaking of much important research, but in an increased understanding of many problems in such fields as psychology, sociology, forensic medicine, medical hygiene, and psychosomatic medicine. Alexander(1), for example, suggests that if the period of adolescent sterility takes a long time in non-literate cultures in which psychosexual development does not pass through periods of repression and latency, it might be expected that the period of adolescence (and the completion of physiological maturity) would take even longer in Western cultures "where the goal of sexual maturation can be achieved only through the reconciliation of the sexual drive with all other functions of the personality." The evidence, on this point is, as a matter of fact, far from clear and is complicated by many factors. For example, for whites almost everywhere the average adolescent sterility interval is about 3 years, but among the Dap (a nonliterate people living on Wogeo, one of the northernmost of the Schouten Islands in the Territory of New Guinea) the average adolescent sterility interval is about 5½ years(25), while among the Himalayan Lepchas(16) it appears to be about 9 years! There is obviously here a rich field for psychosomatic research, and it

is much to be hoped that students of psychosomatic medicine and anthropologists will increasingly collaborate upon the solution of such problems, not merely in order to solve them but for the light which their investigation will undoubtedly throw upon psychosomatic relationships at present obscure.

It perhaps needs to be recalled that our understanding of the adolescent period itself has been virtually completely revolutionized by the work of field anthropologists beginning with Mead's(39) demonstration of the absence of those stresses and strains of both emotional and somatic nature which, in Western cultures we had taken for granted as natural accompaniments of the process of "adolescing." On the contrary, it was effectively shown that such stresses and strains were largely the consequence of cultural factors peculiar to particular societies.

Numerous anthropological studies of non-literate peoples have now substantively demonstrated the overweening importance of cultural factors in the psychosomatic, as well as psychosocial, development of the person. And, indeed, among the most important of the contributions which the anthropologist has to make toward the deepening and more effective understanding of his problems and their treatment, is the concept of culture.

The meaning of culture has become fairly widely understood as a result of the popularity of the writings of Mead(39, 40, 41, 42) and Benedict(5), to mention but two of the most widely read anthropologists. During recent years the concept of culture has itself formed the subject of monographic study(35, 36, 76), and, of course, culture forms the matrix of every work on anthropology. The psychosomatic investigator is interested in the person, the anthropologist is interested in the group which produced the person, and it is at this nexus that psychiatrist and anthropologist can be of the greatest help to each other. As Mead(44) recently put it, "This relationship between the psychiatrist's data on *how* a given patient is handling himself in the world and the anthropologist's data on *how* a given group of people is handling their lives in the world is the first step in interaction between the two disciplines." Since culture is prior to the person, and, indeed, the organism becomes a person principally as a direct effect of the

cultural stimulation and organization which his inherent potentialities and his acquired behaviors undergo, it becomes of the first importance to understand the nature of the culture or cultures in which the person was culturalized if one is to understand the person. Among psychosomatic investigators Flanders Dunbar (12) was the first to realize this in the detailed technique she recommended for taking the psychosomatic history of the patient. But the very virtues of those recommendations provide a measure of the progress which yet requires to be made by students of psychosomatic medicine in the genuinely comprehensive study of the patient as a person.

Those regularities of behavior (excluding those inborn) that characterize the members of a particular society (3) are what the anthropologist recognizes as culture. Kluckhohn (33) has offered an account of the anthropological meaning of culture which would, I believe be acceptable to most anthropologists.

By "culture" anthropology means the total life-way of a people, the social legacy the individual acquires from his group. Or culture can be regarded as that part of the environment that is the creation of man. . . . The general abstract notion serves to remind us that we cannot explain acts solely in terms of the biological properties of the people concerned, their individual past experience, and the immediate situation. The past experience of other men in the form of culture enters into almost every event. Each specific culture constitutes a kind of blueprint for all of life's activities.

From the viewpoint of the anthropologist, and of the holistic student of the behavior of human beings, the point is precisely that "we cannot explain acts solely in terms of the biological properties of the people concerned," that any comprehensive study of the person must involve not only his biological properties, his individual past and present experience, but also that of the past and present experience of human beings that we call culture. In a valuable paper on anthropology and psychosomatics Henry (24) defines culture as the acquired response systems of the individual or group, and goes on to say that "from the anthropologic point of view psychosomatics may be considered an aspect of the study of the response systems acquired by *Homo sapiens* during domestication." This is a helpful statement because

it emphasizes the fact that man is a domesticated creature, and, what is more to the point, a self-domesticated creature, whose forms of domestication assume a large and changing variety of cultural pressures. It is entirely through the operation of these cultural pressures that the organism born *Homo sapiens* learns to become a *functioning human being*. The greater part of what *Homo sapiens* does as a human being he has to learn. This being so it then becomes true to say that *Homo sapiens* as a human being is to a very large extent what he learns, what he learns to be as an organism.

It should, then, be unequivocally clear that the psychosomatic study of the patient indisputably involves the study of the manner in which he learned to be what he has become. The recognition of the fact that the person is at least as much a product of the culturalization process as he is of his genes should render it an obligatory and fundamental part of the study of the patient. At this level the anthropologist's association with, and frequent involvement in the work of, the geneticist (50) enables him to bring a much needed balance to the conceptions of both "heredity" and "constitution" which have for so long been used or rather misused in medicine. The notion that "heredity" determines one's "constitution" and that "constitution" determines one's fate, has long been a canon of medical thought. The idea that biological heredity determines what one is, is closely related to the idea which was held by many earlier biologists that heredity determines the characters or traits of the organism. But the carriers of biological "heredity" are the genes, and genes determine not characters or traits, but the responses of the developing organism to the environment (9). What the organism *Homo sapiens* inherits is a biological genotype and a complex of internal and external environments in the matrix of which the genotype undergoes development. There is no such thing as a genotypic development *per se*, but as Boas (6) pointed out long ago "every genetic type appears under certain environmental or physiological conditions, and . . . in this sense we are always dealing with the physiological form of a certain genetic type." The environments which a human being in-

herits are just as much a part of his heredity as are the genes that he inherits: the person is the expression of the interaction of both. The environment is, of course, whatever stimulates the organism. Heredity is by no means equivalent to predestination, and since the expression of heredity is a function of environment, heredity is to a certain extent subject to human control. By modifying the environment we can modify heredity.

In any society, therefore, in which there appear to be a large number of "hereditary" dysfunctions or dysfunctions of a functional nature, upon this view of the nature of heredity (and of constitution) the indications would be to turn our attention to society as the patient(15), for the culture of the person is a major aspect of his heredity(31). Here the anthropologist becomes the indispensable associate and collaborator of the psychiatrist. As a student of culture the anthropologist has become uniquely sensitized to the effects of varying culturalization processes upon human beings in different societies. With the psychiatric sophistication which, in recent years, anthropologists have brought to the study of cultures in different parts of the world, including the cultures of the western world(20, 34, 45, 65), the anthropologist is able to draw the psychiatrist's attention to the areas of stress and strain in culture which may produce stress and strain in the patient. Working together psychiatrist and anthropologist would complement each other, the anthropologist providing the history of the culture and its stress and strain points, as well as a similar history of the particular patient insofar as his segment of the culture in general is concerned. This would involve, of course, a study of the patient's family(58), as well as a study of the physician(s) in relation to the patient(71). The anthropologist working with the psychiatrist and the patient would be able to take an objective view of them both which should prove extremely helpful to psychiatrist and patient.

At the present time there are perhaps no more than half a dozen psychiatric departments in our medical schools that have an anthropologist on the staff. It is too early to report the results of this new development, but it can be said that in every case known

to the writer the arrangement has proved a most beneficial one, and the first collaborative works of psychiatrists and anthropologists are just now beginning to come from the press (Ruesch and Bateson, 1951; Menninger and Devereux, 1952; Kluckhohn and Murray, 1948, 1953; Ruesch and Loeb, 1948; Caudill and Redlich 1952; Simmons and Wolff 1954).

The problems and needs of psychiatrists as set out in the admirable volume *Mental Health in Modern Society*, by Rennie and Woodward(57) cannot be adequately solved or met without the assistance of the anthropologist, for those problems are essentially cultural in origin, and it is for this reason that the anthropologist should form a part of the clinical team of the psychiatrist in much the same way as the clinical psychologist and the biochemist are members of that team. The study of personality in culture is what one is studying when one investigates the behaving human organism, it inevitably follows that a psychiatric team investigating human beings without benefit of an anthropologist is lacking in perhaps its most important dimension.

The relationships between psychiatry, psychosomatic medicine and anthropology have been frequently pointed out in recent years(8, 24, 31, 32, 43, 44, 53, 69) and there are few diehards on either side who need convincing that the data of psychiatry and anthropology overlap extensively; however, it may be useful to set out specifically in what ways the anthropologist can contribute to the development of psychosomatic medicine, how he can cooperate with the psychiatrist and help to serve the patient both in the form of the person and of society increasingly better.

By bringing his knowledge of the comparative study of cultures to bear upon the problems of the psychiatrist the anthropologist can indicate where the cultural origins of many conditions and even some symptoms are to be looked for. He can thus point to areas of the culture which require some sort of change, and while such change may not be immediately possible upon the larger scale, it can often be brought about upon the smaller segmental scale in which the patient is involved with the possibility of accruing

benefit to him. Rennie and Woodward(57) have said that:

In dealing with social and mental health problems we act somewhat like the patient who bails the bucket without turning off the tap. We keep on spending sixteen to twenty billion dollars a year on police departments, courts, and prisons without getting at the sources of social pathology.

This is certainly an area in which the anthropologist can be of the greatest assistance, for the weaknesses of our social organization and the incompatibilities of our mores, as well as the burden of conflicts which persons in our culture have to bear, and so frequently collapse under, the anthropologist can perhaps see more clearly than anyone else from his vantage point of the comparative study of other cultures. Furthermore, he will generally be in a position see not only what is wrong, but how it has come about that it is so, and what the indications are for action. The achievements of anthropology applied in government, industry, and other social problem areas during the last 15 years are not unimpressive(26, 35, 70).

In a recent appraisal of psychosomatic concepts Grinker(18) writes:

"Psychosomatic" connotes more than a kind of illness; it is a comprehensive approach to the totality of an integrated process of transactions among many systems; somatic, psychic, social, and cultural. It deals with a living process that is born, matures, and develops through differentiation and successive stages of new forms of integration of parts and other wholes. It deals with stresses, strains, and adjustments, with acute emergency mechanisms, dis-integrations, and chronic defensive states or disease. In fact, "psychosomatic" refers not to physiology or pathophysiology, not to psychology or psychopathology, but to a concept of process among all living systems and their social and cultural elaborations. [Grinker goes on to add] It has often occurred to me that we would have fared better if we had used the term "behavioral science," which implies psychosomatic or comprehensive approaches. It deals with man as a biological organism striving as part of his animal, human, and physical environment for continuity and self-fulfillment as an individual, as he integrates into varying-sized groups.

Throughout his book Grinker shows his profound understanding of cultural factors in the development of the person, and the passages I have just quoted are not only entirely acceptable to the anthropologist but once more underscore the necessity of the anthropologist on the psychiatric or "behavioral science" team.

The transactions between the organism and the environment are processual. Grinker emphasizes this, and I have elsewhere(53) described "constitution" as a *process*, the sum total of the structural, functional, and psychological characters of the organism, the integral of genetic potentialities influenced in varying degrees by internal and external environmental factors. It is in the microscopic analysis, as it were, of many of these elements, but particularly the cultural, that the anthropologist can be of the greatest assistance to the psychiatrist. What the anthropologist can achieve through the analysis of personality in culture has been demonstrated in many ways in recent years. There is space to refer to but one, with the full story of which even some anthropologists may not be familiar. During the late world war Ruth Benedict was assigned, by the Office of War Information, the task of presenting an analysis of Japanese character. Benedict had never been in Japan and knew very little of it, but by careful methods of interview with many Japanese and others who had lived in Japan, and some research in the literature, she was able to put together a report on the Japanese(4) which is today widely used throughout Japan as one of the best and most faithful account of Japanese character structure (up to the second world war) available in any language. There were innumerable such studies made during the war—and afterwards—and almost without exception with high degrees of success. If this is what the anthropologist can do with the study of cultures at a distance it should not be difficult to envisage what he might be capable of doing with cultures or segments thereof studied at first hand(2, 17, 26, 27, 45, 60, 66, 77).

Because of his cultural sophistication the anthropologist is capable of asking the kinds of questions about cultural and somatic relationships that would be unlikely to occur to anyone else, questions the answers to which might provide the solution to many problems. Let me give but one example of what I mean. The anthropologist notes that in many non-literate cultures little or no clothing is habitually worn, that mother and child mutually experience a great deal of cutaneous stimulation. By comparison in western literate

cultures where clothing is habitually worn little cutaneous stimulation is experienced in the mother-child relationship. Now for the question which this cultural difference immediately suggests: Does inadequate cutaneous stimulation in the mother-child relationship in infancy and childhood have any significant effects upon the psychosomatic development of the person? I have elsewhere recently shown(55) that there is good evidence that stimulation of the skin in infancy and childhood probably plays a far more important role in the total development of the person than we have hitherto suspected. At any rate, a whole new field of research has been opened up for exploration(56), and it cannot but increase our understanding of the nature and the needs of the human organism. The anthropologist is likely to ask new and significant kinds of questions because his approaches to human behavior are, as it were, multidimensional in that he deals with and takes into consideration modalities of conduct and their multiform relationships of exceedingly great variety. It is one thing to think of the psychoneurogenic aspects of the skin, centrifugally, but it is quite another to think of the skin from without-in, centripetally.

Americans pride themselves upon having attained the highest standard of living in the world, but too often they fail to add: at the cost of the greatest number of ulcers. The cultural processes involved in attaining and maintaining the desired standard of living, are only too obviously achieved by large numbers of Americans at the price of serious psychosomatic disturbances. Why is it that in other cultures such disturbances are proportionally so much less frequent? Could we learn from the study of such cultures how to reduce illness and dysfunction in our own? These are very practical questions, and the anthropologist is able to answer them in a manner which would, indeed, help to reduce not only personal but also social sickness and dysfunction. Halliday(19) has pointed out that "What a person has to live for profoundly modifies his bodily reactions and modes of behavior," and it is equally true that what a person lives for modifies his bodily reactions and modes of behavior. The history and nature of what the person has to live for

or lives for the anthropologist is especially equipped to trace and analyze. The psychiatrist is interested in the person, the anthropologist is interested in the sources of the person. Of course the psychiatrist is interested in the sources of the person, too, but while he works from the person to the sources (as he must), the anthropologist works from the sources (the formative cultural processes) to the person. Clearly, then, the anthropologist needs the psychiatrist quite as much as the psychiatrist needs the anthropologist, but in the present paper we are concerned with the contribution which the anthropologist can make to the psychiatrist, and perhaps repay him some small part of the debt which he owes him. The anthropologist's understanding of the nature of cultural processes has been immensely deepened by the contributions of the psychiatrist, as witnessed by the collaborative investigations of culture by psychiatrists and anthropologists(10, 29, 30, 69). These collaborative investigations have been most fruitful and stimulating. In an even more fruitful and stimulating manner psychiatrist and anthropologist can collaborate in the endeavor to solve the problems of the sick patient in a sick environment.

In a relationship which is going to be a new one for some time to come it may be helpful to make some suggestions as to the manner in which the anthropologist can best be fitted into the psychiatric situation.

The anthropologist should not be regarded as a technician, but rather as a colleague with a rather broad kind of special knowledge who is to collaborate with the psychiatrist in attempting to help the patient. The anthropologist should be regarded as a fully participating scientific member of a cooperative team.

The anthropologist as a member of a co-operating team will, of course, have to learn how best to fit into the work of the team. This will require some little time. During this period the anthropologist will best learn to assume his proper role in the team by participating, as early as possible, in the current research of the group. It would be a mistake—however well-intentioned—to invite him to sit in at first in the capacity of an observer; in many connections this will, of

course, be necessary, but insofar as the research and problems of the team as a whole are concerned, the anthropologist will learn most effectively by participation rather than by inactive observation.

If the anthropologist has not been analyzed it would be desirable for him to undergo a training analysis, preferably in the department with which he is associated. I say this for the reason that analyst and analysand could make creative use of the analysis not only for the analysand but for the more effective functioning of the anthropologist as an integral part of the psychiatric team. If, as is almost inevitably likely to prove the case, the anthropologist learns to regard the psychiatrist as a father-figure, no great harm will be done!

BIBLIOGRAPHY

1. Alexander, F. *Psychosomatic Medicine*. New York: Norton, 1950.
2. Arensberg, C. M. *The Irish Countryman*. New York: Columbia University Press, 1937.
3. Bagby, P. H. Culture and the Causes of Culture. *Am. Anthropologist*, 55: 535, 1953.
4. Benedict, R. *The Chrysanthemum and the Sword*. Boston: Houghton Mifflin, 1946.
5. ———. *Patterns of Culture*. Boston: Houghton Mifflin, 1934.
6. Boas, F. New Evidence in Regard to the Instability of Human Types. *Proceedings of the National Academy of Sciences*, 2: 713, 1916. (Reprinted in Boas: *Race, Language and Culture*. New York: Macmillan, 1940.)
7. Cannon, W. *Am. Anthropologist*, 44: 169, 1942.
8. Caudill, W., Redlich, F. C., Gilmore, H. R., and Brody, E. B. *Am. J. Orthopsychiat.* 22: 314, 1952.
9. Dobzhansky, T. *Science*, 100: 406, 1944.
10. Du Bois, C. *The People of Alor*. Minneapolis: University of Minnesota Press, 1944.
11. Dunbar, F. *Emotions and Bodily Changes*. New York: Columbia University Press, 1935.
12. ———. *Psychosomatic Diagnosis*. New York: Hoeber, 1943.
13. ———. *Mind and Body*. New York: Random House, 1947.
14. Engle, E. T. *Endocrinology*, 15: 405, 1931.
15. Frank, L. K. *Society as the Patient*. New Brunswick, N. J.: Rutgers University Press, 1948.
16. Gorer, G. *Himalayan Village*. London: Joseph, 1938.
17. ———. *The American People*. New York: Norton, 1948.
18. Grinker, R. *Psychosomatic Research*. New York: Norton, 1953.
19. Halliday, J. L. *Psychosocial Medicine*. New York: Norton, 1948.
20. Haring, D. G., Ed., *Personal Character and Cultural Milieu*. Syracuse, N. Y.: University of Syracuse Press, 1949.
21. Hartman, C. G. *Am. J. Obstet. and Gynecol.*, 19: 511, 1930.
22. ———. *Science*, 74: 226, 1931.
23. ———. Studies in the reproduction of the monkey *Macacus (Pithecus) rhesus*, with special reference to menstruation and pregnancy. Carnegie Institution of Washington, Contributions to Embryology, No. 134: 1-161, 1932.
24. Henry, J. *Psychosom. Med.*, 11: 216, 1949.
25. Hogbin, I. H. *Native Culture of Wogeo: Report of Field Work in New Guinea*. Oceania, 5: 310, 1935.
26. Honnigman, J. J. *Culture and Personality*. New York: Harper, 1954.
27. Hsu, F. L. K. *Under the Ancestor's Shadow*. New York: Columbia University Press, 1948.
28. Human Organization. *Journal of the Society for Applied Anthropology*, New York.
29. Kardiner, A., and Linton, R. *The Individual and his Society*. New York: Columbia University Press, 1939.
30. Kardiner, A., Linton, R., Du Bois, C., and West, J. *The Psychological Frontiers of Society*. New York: Columbia University Press, 1945.
31. Kluckhohn, C., and Mowrer, O. H. *Am. Anthropologist*, 46: 1, 1944.
32. Kluckhohn, C. The influence of psychiatry on anthropology in America during the past one hundred years. In Hall, J. K., G. Zilboorg, and H. A. Bunker, eds., *One Hundred Years of American Psychiatry*. New York: Columbia University Press, 1944.
33. ———. *Mirror For Man*. New York: Whiteley House, 1949.
34. Kluckhohn, C., Murray, H., and Schneider, D. *Personality: In Nature, Society, and Culture*. New York: A. A. Knopf, 1953.
35. Kroeber, A. L. *The Nature of Culture*. Chicago: University of Chicago Press, 1952.
36. Kroeber, A. L., and Kluckhohn, C. *Culture: A Critical Review of Concepts and Definitions*. Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, 47: viii-223, 1952.
37. Laqueur, G. L. *California and Western Med.*, 63: 268, 1945.
38. Malinowski, B. *The Sexual Life of Savages*. New York, 1929.
39. Mead, M. *Coming of Age in Samoa*. New York: Morrow, 1928.
40. ———. *Growing Up in New Guinea*. New York: Morrow, 1930.
41. ———. *Sex and Temperament in Three Primitive Societies*. New York, Morrow, 1935.
42. ———. *From the South Seas*. New York: Morrow, 1939.
43. ———. *Psychiatry*, 10: 57, 1947.
44. ———. Some relations between social anthropology and psychiatry. In Alexander, F., ed., *Dynamic Psychiatry*. Chicago: University of Chicago Press, 1952.
45. Mead, M., and Métraux, R. *The Study of*

Culture at a Distance. Chicago: University of Chicago Press, 1953.

46. Mirskaia, L., and Crew, F. A. E. Maturity in the female mouse. *Proceedings of the Royal Society of Edinburgh*, 50: 179, 1930.

47. Menninger, K., and Devereux, G. A Guide to Psychiatric Books. New York: Grune & Stratton, 1950.

48. Montagu, M. F. A. *Am. J. Phys. Anthropol.* (Supplement), 21: 13, 1936.

49. ———. *Oceania*, 8: 15, 1937.

50. ———. Introduction to Physical Anthropology, 2d ed. Springfield: C. C. Thomas, 1951.

51. ———. *Quart. Rev. Biol.*, 14: 13-34, and 192-219, 1939.

52. ———. *Adolescent Sterility*. Springfield: C. C. Thomas, 1946.

53. ———. Pp. 94-119 in Green, D. E. and Knox, W. E., Eds., *Research in Medicine*. New York: Macmillan, 1950.

54. ———. Pp. 148-210 in Senn, J. E., ed., *The Healthy Personality*. New York: Josiah Macy Jr., Foundation, 1950.

55. ———. The Sensory Influences on the Skin. *Texas Reports on Biology and Medicine*, 11: 291, 1953.

56. Obermayer, C. *Psychocutaneous Medicine*. Springfield: C. C. Thomas, 1955.

57. Rennie, T. A. C., and Woodward, L. E. *Mental Health in Modern Society*. New York: Commonwealth Fund, 1948.

58. Richardson, H. B. *Patients Have Families*. New York: Commonwealth Fund, 1945.

59. Richdale, L. E. A Study of a Group of Penguins of Known Age. Dunedin, N. Z., 1949.

60. Rodnick, D. *Postwar Germans*. New Haven: Yale University Press, 1948.

61. Ruesch, J., Jacobson, A., and Loeb, M. B. *Acculturation and Illness. Psycholog. Monographs: General and Applied*, 42: 1, 1948.

62. Ruesch, J., and Bateson, G. *Communication: The Social Matrix of Society*. New York: Norton, 1951.

63. Ruesch, J., et al. *Chronic Diseases and Psychological Invalidism: A Psychosomatic Study*. Berkeley: University of California, 1951.

64. Ruesch, J. Social technique, social status, and social change in illness. In C. Kluckhohn, H. Murray, and D. Schneider, eds. *Personality: in Nature, Society, and Culture*. New York: A. A. Knopf, 1953.

65. Sargent, S. S., and Smith, M. W., eds. *Culture and Personality*. New York: Viking Fund, 1949.

66. Schaffner, B. *Fatherland*. New York: Columbia University Press, 1948.

67. Selye, H. *Textbook of Endocrinology*. Montreal: Acta Endocrinologica, 1947.

68. ———. *Stress*. Montreal: Acta Endocrinologica, 1950.

69. Simmons, L. W., and Wolff, H. G. *Social Science in Medicine*. New York: Russell Sage Foundation, 1954.

70. Spicer, E. H. *Human Problems in Technological Change*. New York: Wiley, 1952.

71. Stanton, A. H., and Schwartz, M. S. *Psychiatry*, 12: 339, 1949.

72. Webster, R. C., and Young, W. C. *Fertility and Sterility*, 2: 175, 1951.

73. Williamson, G. Scott, and Pearse, I. H. *Biologists in Search of Material*. London: Faber & Faber, 1938.

74. West, J. Plainville, U.S.A. New York: Columbia University Press, 1945.

75. Wolff, H. G., Wolff, S. G., and Hare, C. C. *Life Stress and Bodily Disease*. Baltimore: Williams & Wilkins, 1950.

76. White, L. A. *The Science of Culture*. New York: Farrar, Strauss, 1949.

77. Yang, M. C. *A Chinese Village*. New York: Columbia University Press, 1945.

THE DEATH EXPERIENCE IN INSULIN COMA TREATMENT

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INTRODUCTION

Patients undergoing insulin coma treatment often express vividly experienced death feelings. Although this phenomenon has been given various psychological explanations, observation of patients who experienced feelings of dying and who had a simultaneous stage iii coma, and were thus in a state close to physiological death, raised the question of a possible pathophysiological basis of the death experience. This study, conducted at the Kingsbridge Veterans' Administration Hospital, attempts to investigate the relationship between the depth of coma in insulin coma treatment and the occurrence of the death experience.

TECHNIQUE

The patients, all veterans of World War II, were divided into 2 groups. Those in Group I had the death experience, and those in Group II had stage iii comas. Interviews with each patient, lasting from 1½ to 2 hours, were directed toward obtaining a psychiatric history, a picture of the patient's present problems, and his attitudes and experiences relating to insulin treatment. Special attention was focused on the possible existence of suggestibility, previous death fears, and fears of insulin treatment in an attempt to rule these out as factors which might have influenced the occurrence of the death experience.

A stage i coma is characterized by perspiration, salivation, muscular relaxation, fine tremors, somnolence, clouded consciousness, and excitement. A stage ii coma is characterized by loss of environmental contact, motor restlessness, myoclonic twitchings, clonic spasms, increased sensitivity to stimulation, and autonomic changes such as flushing of the face, dilation of the pupils, and fast heart rate. Although it is considered optimal therapy to keep a patient in a stage

ii coma for 20 minutes, he may slip into a stage iii coma despite all precautionary measures. If this occurs, the coma is terminated immediately by intravenous injection of glucose. A stage iii coma is characterized by diminished sensitivity to stimulation, tonic spasms, torsion spasms, Babinski reflex, extensor spasms, symptoms of increased parasympathetic activity such as pin-point pupils with loss of reaction to light, slow heart rate, pallor, and depressed respiration, muscular flaccidity, depressed reflexes, loss of corneal reflex, and convulsion. Many of these symptoms may also occur in stage ii coma. Convulsions may occur in any stage.

DATA

There were 10 patients in Group I and 7 in Group II. Descriptive material of 5 of those from Group I is presented in detail with data on all patients summarized in the accompanying table.

Patient 1.—M. J. M. was admitted to the open wards on 2/10/53. After 2 weeks he was transferred to the shock wards and given a course of 15 electroshock treatments. He recalls that he was somewhat "scared" of them and would awaken with frontal headaches and pain over the right eye. The patient did not wish to discuss his illness during the interview. It was discovered, from the hospital record, that he had suffered from diffuse anxiety, somatic pains in the back and legs, impotence, urges to hurt himself with a knife, obsessive thoughts of performing cannibalism and fellatio, and urges to shout that he is a homosexual.

Attitudes Prior to Insulin Treatment.—The patient denied knowledge or fear of insulin treatment.

Reactions During Treatment.—The patient was placed on insulin coma treatment in May 1953. By the end of that month he had his first feeling of awaking from the dead when coming out of coma. He related the following spontaneous account: "A couple of times I thought I was dead. When I first used to awake and asked them to take the cuffs off my wrist, I used to look up and everything seemed to be standing still—also the nurses and doctors—it used to be like another world. I had that feeling quite a few times, wake up after a coma and everything looked like it was standing still." The patient had the feeling of death "quite a few times" but did not recall the exact frequency. After his treatment he stated he felt worse than at the time of admission, and requested a lobotomy.

¹ From the Neuropsychiatric Service of the Veterans Administration Hospital, Bronx, N. Y. The author expresses her appreciation to Dr. Hiland L. Flowers, Chief of the N.P. Service, for his helpful suggestions in conducting this study.

Hospital Record of Treatment.—ICT was started on 5/25/53. As of 10/29/53 he had 62 treatment days. Combined ECT and ICT was started on 10/5/53. The first coma, stage i with a grand mal seizure, occurred on 5/28, the fourth treatment day. As of this date of interview (10/29) the patient had had 9 grand mal seizures with either stage i or ii comas. There were no stage iii comas.

Patient II.—P. W. K. was admitted on 7/9/53 complaining of recurring episodes of depression, panic, fears of harming his 2 children, and of dying. Insulin treatment was begun after 1 month of hospitalization.

Attitudes Prior to Insulin Treatment.—The patient's wife had had insulin treatment and he was frightened of it, but he could express no specific fears.

Reactions During Treatment.—After being on insulin treatment for about 1 week, the patient had the feeling, on coming out of coma, that he had died. The doctors, nurses, and attendants seemed to be gliding around on roller skates in quick jerky movements. At the interview (10/29/53) he reported having had this feeling 10 or 15 times. No other fears were recalled. He further stated that "at these times I felt unpleasant all over, paralyzed, and just come from the dead." His panic reactions had not diminished, and he felt his only improvement to be some lessening of his depression.

Hospital Record of Treatment.—ICT was started on 8/3/53. As of 10/29 he had 49 treatments. The first coma, stage ii, occurred on the 7th treatment day with 320 units of Regular Insulin. There were no stage iii comas; however, on 9/23 he was in a stage ii coma which was sufficiently deep to warrant intravenous termination.

Patient III.—G. B., a 36-year-old married veteran with 2 children, was admitted on 5/8/53 because of weight loss, anorexia, various severe somatic complaints, depression, and increasing withdrawal from people. He was given a course of 15 electric shock treatments. Commenting on this treatment, he recalled a fear of being "knocked out." "I didn't like the idea of coming in here and getting knocked out like that. The treatment didn't do me much good. It didn't help and I had the same symptoms. I was disappointed and was more depressed after the electric shocks." After his course of ECT he was placed on insulin treatment.

Attitudes Prior to Insulin Treatment.—The patient "didn't like the idea of insulin" because ECT had not helped. He had fear of insulin treatment because he had seen and heard fellow patients screaming. "I figured, how much could a heart stand, how much punishment could a body stand." Despite these comments, however, the patient stated that he was "slightly optimistic" about the results he expected from insulin treatment.

Reactions During Treatment.—The patient recalled that insulin treatment was started 2-months prior to the date of interview and that he had difficulty getting into a coma. During one coma "I felt dead and then struggled to come back to life

and then I'd lose ground again and struggle to come back to life again. It was horrible." The patient had a total of 3 comas. In the first he did not feel close to death and recalled no particular reactions. In the second and third comas he had "dreams" that he was dying and coming back to life. "The third coma was worse than the second, it was more violent, more realistic. I felt the experience somewhat more horrifying. I was struggling for my life, and during the struggle I kept gasping for breath, trying to come back to life." Treatment was stopped "because of the horrible feelings" and for the month preceding the interview the patient was on subcoma insulin with no recurrence of death feelings.

Hospital Record of Treatment.—The patient had 15 ECT from 6/26 to 7/31/53. ICT was started on 8/10/53. The first coma, stage ii, was on 8/31, the tenth treatment day (520 Units R.I.). The second coma, stage ii, was on 9/1 with 520 units R.I. The third coma, stage iii, was on 9/2 with 560 units. Treatment was stopped on the twenty-fourth day.

Patient IV.—J. M. D., a 31-year-old homosexual film editor, was admitted on 8/3/53 with a history of several "nervous breakdowns," the first at the age of 18 following an episode in the navy when 3 men practiced anal intercourse on him while he was drunk. He came to the hospital because of "mental imbalance." He stated: "I can't get along with people, I use them for business purposes or money." He suffered from recurrent depression with some suicidal ideas. "Also I got asthmatic attacks as a solution to mental disturbances."

Attitudes Prior to Insulin Treatment.—The patient was angry to be on a locked ward but he knew nothing about ICT and had no fears concerning treatment.

Reactions During Treatment.—The first coma occurred 5 days after treatment was started. The patient stated: "I thought I had died, I felt so funny, everything seemed so lopsided. As I was coming out of coma I felt I had died or something." In reference to subsequent comas he said: "I feel as though I just died when I come out of the coma I feel as though I'm dead because my hands don't have any feeling, my head feels like a fog." At the time of interview (11/12/53), which was one month following beginning of insulin treatment, the patient said: "I can't tell how I feel yet because I'm still all fogged up."

Hospital Record of Treatment.—ICT was started on 10/12/53. The first coma, stage ii, was on 10/16, the fifth treatment day, with 360 units R.I. Subsequently he had stage i and ii comas, with no stage iii's. On 11/19 he had a prolonged coma ending in temporary motor aphasia and right hemiplegia, and insulin treatment was terminated.

Patient V.—P. M., a 27-year-old married subway conductor, was admitted on 12/3/53 with complaints of "claustrophobia, social and sexual inadequacy, and generalized pan-anxiety." He had many obsessive features, such as a tendency to count to 3 or 5, and to repeatedly flush the toilet when an unpleasant thought occurred to him while urinating

or masturbating. He feared death from a stroke or a heart attack. The symptoms were steadily progressive for a few years.

Attitudes Prior to Insulin Treatment.—"I had the fear of the coma and of getting unconscious and of having no control over the needle and of not waking up from the coma, just like I always had the fear of fainting."

Reactions During Treatment.—About 2 weeks after treatment was begun, the patient awakened from a coma and felt a "struggle to breathe and to live." "Everything moved fast in front of me—the nurses and doctors. I couldn't feel myself breathing—I was all numb inside. Up till that point I felt I was dead and struggling to live. I was numb all over and thought I had died and everything around me was unreal and dead." The patient had this experience every day of treatment for the 2 weeks preceding the interview.

Hospital Record of Treatment.—ICT was started on 2/15/54. The first coma, stage ii, was on the tenth treatment day with 600 units R.I. Subsequently he had stage i and ii comas, with no stage iii's. As of the interview date (4/1/54) he had 30 treatments.

DISCUSSION

Review of Data.—Table I reveals that, of the 10 patients who had the death experience in Group I, only 3 had stage iii comas, whereas, of the 7 with stage iii comas in Group II, none had the death experience. These results indicate the absence of a posi-

tive correlation between the depth of coma and the death experience.

Although this study was not focused on correlating the death experience and stage iii coma with symptomatic improvement, it can be observed that 4 of the 10 patients with death experiences showed no improvement; of the 10 who had stage iii comas (3 in Group I and 7 in Group II) 4 showed no improvement. This 60% improvement is not greatly different from the percentage of patients undergoing ICT who show improvement without experiencing the stage iii coma or the death phenomenon. However, the number of patients in this sample is too small to draw any general conclusions as to therapeutic relationships. Improvement (indicated by a + sign—Table 1) signifies symptomatic improvement sufficient to warrant the transfer of the patient to the open wards with eventual discharge from the hospital; the — sign means there has been no improvement and that further hospitalization was recommended.

It was not always possible to determine the exact date of the occurrence of the death phenomenon inasmuch as one had to rely on the patient's recollection of this event. Hence, accurate correlation of this phenomenon with the level of coma on that date was not always ascertained. Also, while it could be definitely stated from the hospital record that no stage iii comas occurred, there is no sharp demarcation between a stage ii and a stage iii coma, and thus the level of coma as judged by different observers may vary. These conditions constitute one criticism of this study. However, the stage i coma does present a definite entity upon which most observers would agree. Patient V described vividly death feelings on two occasions when the hospital record showed he had stage i comas.

Not only does the depth of coma appear to have no relationship to the occurrence of the death experience, but the duration of insulin treatment as well seems to bear no relationship to this phenomenon. For example, several patients reported the death experience as occurring within the first 2 weeks of their insulin treatment, while others reported this as occurring much later.

As regards death fears prior to treatment,

TABLE I
SUMMARY DATA ON ALL PATIENTS—GROUPS I
AND II

Group I			
Patients with death experience		Stage iii coma	Improvement
Patient I	0		+
Patient II	0		+
Patient III	+	(1 coma)	—
Patient IV	0		+
Patient V	0		+
Patient VI	+	(4 comas)	—
Patient VII	0		+
Patient VIII	+	(1 coma)	—
Patient IX	0		—
Patient X	0		+
Group II			
Patients with stage iii coma	No. of comas	Death experience	Improvement
Patient XI	6	0	+
Patient XII	6	0	—
Patient XIII ...	3	0	+
Patient XIV ...	2	0	+
Patient XV	1	0	+
Patient XVI ...	1	0	+
Patient XVII ..	1	0	+

no patient in this series had had any prior experience similar to the death phenomenon, although 3 patients had had fears of dying (Patients II, V, IX). All 3 experienced the death phenomenon and none had a stage iii coma. One patient (XII) had fears of not awaking from coma prior to treatment. After treatment was started he had no fears at all; this patient had 6 stage iii comas. Another patient (XIV) feared the treatment because he had heard from fellow patients that death could result from it. Although he had some fearful experiences upon coming out of coma, he stated: "I never felt that I was actually dead." This patient had 2 stage iii comas.

Some patients used terms such as "out of this world, struggling to get back to earth" and, at the same time, denied death feelings, whereas other patients used similar terms and maintained that they felt they had died. Thus another criticism of this study may be on a semantic basis, since patients may have had similar experiences but used different terms to describe them.

THEORETICAL CONSIDERATIONS AND REVIEW OF LITERATURE

It has been suggested by many writers that the death experience is responsible for symptomatic improvement. Levy and Grinker point out some theories on the psychological effect of convulsive shock treatment(5).

The terrifying fear of annihilation . . . the ensuing loss of consciousness experienced subjectively as death, the subsequent awakening with a feeling of rebirth and of infantile helplessness and the turning to parental figures in the environment for help and support have each been considered in the process of recovery. It has been suggested that the patient experiences the treatment as a sadistic punishing attack which satisfies his unconscious sense of guilt obviating the necessity for self-inflicted punishment.

Levy and Grinker feel, however, that "no convincing data have yet been offered to indicate that these psychological mechanisms operate in recovery." Fenichel points to many authors who are of the opinion that shock treatment causes objective alterations of the metabolism of brain cells and these changes are believed to correspond to the ideas of death(2). "The shock probably initiates a momentous and deep regression, an undoing of differentiation, a reduction of the organ-

ism to a very primitive level." However, no evidence is given to support this contention.

Himwich, Bowman, Wortis, and Fazekas (3) attribute the improvement of patients undergoing insulin treatment to the effect of insulin on brain metabolism. From their studies of biochemical changes in cerebral blood during ICT, they conclude that:

The mental activities like the neurological are dependent on brain metabolism for the effects on the mental functions parallel those on the reflex changes(3). In this manner, both normal and pathological processes are similarly affected, being simultaneously released at one time and depressed at another.

These authors do not deal with the psychological mechanisms suggested by various psychoanalysts. There are some authors (Jackson and Jackson) who believe that the coma itself is a detrimental side-action of shock-producing drugs(4). They attribute the beneficial effect of shock treatment to "sudden dilatation of cerebral blood vessels as a result of the sudden great rises in blood pressure when marked sudden generalized convulsions occur." The forcing of blood through cerebral vessels in which the circulation has become inadequate is believed to secure sufficient oxygenation of cerebral cells to allow them to function in a more nearly normal fashion.

In contrast to these views of the detrimental side action of the coma, Delgado points out that the rarity of epileptic attacks in schizophrenics and the favorable effect spontaneous attacks have on this illness have led various authors to the hypothesis of a biological antagonism between epilepsy and schizophrenia, which has formed the basis of convulsive treatment of this disease(1). According to von Meduna:

If one succeeds in producing epileptic attacks in schizophrenic patients, these attacks will produce such changes—chemical, humoral, hematological, etc.—in the central regulatory apparatus of the organism as to create a ground unfavorable for the development of schizophrenia, thus constituting the biological possibility of the regression of the disease.

In his study of patients under metrazol treatment, Schilder found them to experience a fundamental threat(7).

It is the threat of annihilation and death and indeed during the epileptic fit and the following coma the patient comes very near to death.

He feels that the death experience itself explains some of the curative effect of metrazol shock treatment.

The victory over the death threat . . . enables the individual to start life and relations to human beings all over again. The previous fixations of libido lying in a more personal layer of experience are washed away by the recovery from a cataclysmic catastrophe in the depth of the organism. This is the same explanation which Jelliffe has given for the curative effect of the insulin shock (Sakel). "There are innumerable death threats from without that entail increased object libido investments and many threats from within. The hypoglycemic death threat, however, is unique. Genetically considered, it may be thought of as a very primordial, primitive and massive type of threat which strikes at the very initial stages of life's unfolding."

The actual physiological death threat to the organism in shock treatment calls forth a series of systemic reactions termed by Selye the "General-Adaptation-Syndrome." Perhaps it is this calling forth of the basic life forces (mediated through the adrenal cortex) of the organism that is responsible for the observed improvement resulting from shock treatment, the threat to the organism from superego-ego-id conflicts being relatively lessened in the face of the actual physiological death threat. The Alarm Reaction, defined as "the sum total of all non-specific systemic phenomena elicited by sudden exposure to stimuli to which the organism is quantitatively or qualitatively not adapted," calls forth the body's active defenses and is in part manifested by adrenal-cortical enlargement, increased corticotrophin and corticoid production, and hyperchloremia(8). After the initial alarm reaction there is a stage of resistance ("protracted counter-shock") during which there is increased resistance to the particular agent to which the body had been exposed, with a marked decrease in resistance to other types of stress. Thus the general resistance of the organism rises in shock treatment, and in the counter-shock phase of the Alarm Reaction the "adaptability" of the organism is mobilized. One might speculate that any life-threatening procedure involving a sudden death-facing shock to the organism would have similar results to those obtained from the methods of shock treatment currently in use. Verbal shock treatment as used by Rosen in

the treatment of schizophrenic patients may create a similar physiological response (increased adrenal cortical activity, etc.) to that produced by electric and chemical shock treatment.

Some interesting observations on patients undergoing insulin shock therapy were made by Wall(9). He found that patients who showed sexual movements while in coma (such as rubbing together of the thighs, manual masturbation, and rhythmic pelvic movements which had the characteristics of coitus) showed marked improvement.

That the sexual activity was in effect a measure of catharsis is suggested by the general improvement which accompanied such manifestations. It may be that this activity was allowed to appear because the insulin overcame or weakened the repressing forces.

Wall suggests the significance of the sexual manifestations as an index of therapeutic progress. Two of his patients showed the highest stage of improvement at a time when sexual movements and interests were present in the hypoglycemic state with no further improvement beyond this stage when insulin treatment was continued. Thus Wall postulates the optimal time for discontinuing insulin treatment to be when the patient shows arousal of erotic interest and maintains it for several successive days.

Feelings of unreality and death have been described in conditions other than hypoglycemic states, such as hyperparathyroidism, agnosia resulting from cerebral pathology, exhaustion, toxemia, and in functional conditions such as the milder depressed states usually of the manic-depressive variety, in compulsion neurosis and in schizophrenia (10). Reich(6) found the idea of dying to arise in patients in the course of character analytic treatment "when the patient is close to orgasmic release of bio-energy; it [the idea of dying] is connected with severe fear of letting go fully."

CONCLUSION

Within the statistically limited scope of the observations in this study there exists no positive correlation between the occurrence of the death experience in patients undergoing insulin coma treatment and the depth of coma.

BIBLIOGRAPHY

1. Delgado, Honorio. *J. Nerv. Ment. Dis.*, **89**: 625 and 810, May and June, 1939.
2. Fenichel, Otto. *The Psychoanalytic Theory of Neuroses*. New York: W. W. Norton, 1945.
3. Himwich, Harold E., Bowman, Karl M., Wortis, Joseph, and Fazekas, Joseph F. *J. Nerv. Ment. Dis.*, **89**: 273, Mar. 1939.
4. Jackson, D. E., and Jackson, Helen L. *J. Lab. and Clin. Med.*, **23**: 1243, Sept. 1938.
5. Levy, Norman A., and Grinker, Roy R. *J. Nerv. Ment. Dis.*, **97**: 623, June 1943.
6. Reich, Wilhelm. *Character Analysis*. New York: Orgone Institute Press, 1949.
7. Schilder, Paul. *J. Nerv. Ment. Dis.*, **89**: 133, Feb. 1939.
8. Selye, Hans. *Textbook of Endocrinology*, 2d ed. Montreal: Acta Endocrinologica, 1949.
9. Wall, Conrad. *J. Nerv. Ment. Dis.*, **91**: 1, Jan. 1940.
10. Washburne, Annette C. *J. Nerv. Ment. Dis.*, **89**: 37, Jan. 1939.

AGGRESSIVE BEHAVIOR DISORDERS OF CHILDHOOD: A FOLLOW-UP STUDY^{1, 2}

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From 1925 to 1935, 225 children between the ages of 4 and 15 were admitted to the psychiatric division of the Pennsylvania Hospital for observation and treatment. Of these, 90 were selected for this study on the basis of 2 sets of criteria, one negative and one positive. The negative criteria were 3: (1) An IQ (revised Stanford Binet) of less than 80; (2) signs of organic brain damage; (3) a psychotic diagnosis while at the hospital. If a child showed any one of these, he was excluded from the study. In addition, the child had to show at least 4 of the following categories of behavior, either by verified history or during his residence at the hospital: (1) Repeated truancy from school or home; (2) stealing or purposeful lying; (3) cruelty, including marked teasing or bullying; (4) disobedience or defiance of authority; (5) marked restlessness or distractibility; (6) wanton destruction; (7) severe tantrums when crossed. To this constellation of symptoms we have applied the descriptive label "aggressive behavior disorders of childhood," which, in our usage, corresponds rather closely with Hilda Lewis' (16) and Hewitt and Jenkins' (15) "unsocialized aggressive behavior."

The following brief case descriptions are typical of this type of behavior.

CASE 1.—Male, IQ 102, in residence 19 months at age 8. No evidence of psychosis or organic defect while here. Youngest of 3; older siblings "well adjusted." Much alcoholism on paternal side. Mother 42 at patient's birth, promiscuous, irresponsible, left the home when the patient was 2. Raised by paternal grandparents, average income. At 4, said to be very restless. Constantly ran away from home, restless sleeper. At 6, in school, disobedient, telling fanciful stories to cover truancy and dis-

obedience; an increasing disciplinary problem. At 7, much truancy, wanders around city until 10:30 at night before coming home. Gets along well with other children, but quite aggressive and pugnacious. At Pennsylvania Hospital got along well with peers, a leader, became much less restless, lying stopped. Left "much improved." Did better at home for a year, then again started truancy, lying, petty thievery, but no court record, never part of a "gang." At 18½, in the Civilian Conservation Corps, a wanderer, has never settled down. No psychiatric treatment subsequent to residence at Pennsylvania Hospital.

CASE 2.—Female, IQ 91, observed for 1 month at the age of 15. Older of 2 girls, deserted by her mother at the age of 2, raised by grandmother in a modest but adequate home. Lazy and careless in school, she has to be the center of interest, is very demanding of attention, antagonistic toward her younger sister. Temper outbursts if things don't go her way. Much lying, some stealing, apparently to gain attention. Irresponsible, indifferent to authority. At 35, now successfully married after a first brief marriage, making a good adjustment as housewife, emotionally stable.

Twenty years have now elapsed since the last of these children left this hospital. They have all had a chance to reach physiological maturity, and the aim of this survey has been to obtain follow-up material to determine what the further careers and adult adjustments of 90 behavior problem children have been.

Although much has been written on the general topic, there are few lengthy follow-up studies on the problem of behavior disorders in childhood. Bond and Smith (1) have done a 5-year follow-up study of the post-encephalitic children discussed later in this paper. Bender and Schilder (2) studied and tested a group of 83 behavior problems at Bellevue Hospital. Healy and Bronner (3) have written on the subject extensively and have followed juvenile offenders seen by the court as have Glueck and Glueck (4) and Curran (5). A follow-up study of shy, withdrawn children seen in a child guidance clinic was done by Morris and Soroker (6), and Robins and O'Neal (7) have followed child hysterics. Short-term follow-ups on behavior disorders

¹ Read at the 111th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1955.

² Aided by support from the Donner Foundation; the Hall-Mercer Hospital, Pennsylvania Hospital Division; Pennsylvania Hospital, Department for Mental and Nervous Diseases.

³ All from the staff of the Pennsylvania Hospital, Department for Mental and Nervous Diseases.

were reported in the Smith College Studies (8).

The group of 90 patients was in residence here from a minimum of 1 month to a maximum of 39 months, 45 for 10 or more months and 45 for less than 10. The length of stay was not determined by clinical factors. All the children had the experience of living in a group which was run on fairly permissive lines under the supervision of psychiatrically oriented personnel (9). In addition, 39 had individual psychotherapeutic interviews (largely play technique) with senior psychiatrists above the resident level. These individual therapy hours varied from a minimum of 10 in one case to a maximum of more than 100 in 2 cases. The choice of children for psychotherapy was not determined by clinical factors. The median age at time of observation was the beginning of the tenth year, the median age of onset of noted behavior difficulties was the beginning of the sixth year. The similarity between this last figure and the age at which children usually start to school may be more a reflection of the recognition by extra-family observers that a problem exists than a true estimate of the age of onset. Many of these children were not considered to be particular problems by their parents, and it was not until their social contacts widened that their behavior was noticed as deviant by more objective observers. Sixty-four were boys, 26 were girls. This ratio is not a reflection of the natural incidence of behavior disorders in boys and girls, but is based on the fact that the hospital was able to accommodate more boys than girls. The median IQ was 93.

One almost universal characteristic of the whole group was their responsiveness to environment. As their environment changed, so did their behavior. Their reactions seemed to be determined largely by the current situation in which they found themselves, and they were able to modify their behavior, at least temporarily, if they felt that modification was to their advantage. In other words, much of their behavior was rather clearly understandable as an attempt to relate aggressively to the environment. This is in marked contrast with the withdrawal shown by autistic children (10) or the unconscious symbolism of neurotic symptoms. Our chil-

dren were actor-outers. Their interpersonal relationships were rather seriously distorted, however. These were the children that could not be handled by ordinary disciplinary methods in school and home, many of them had trials at child guidance clinics before being sent here as a last resort. Aggressive, dominating behavior as regards their relationship to their peers was the rule.

The backgrounds of these children were exceedingly diverse, representing all social and economic levels found on the eastern seaboard between Baltimore and New York. Rural as well as metropolitan areas were represented. We would agree with Adler (11) and Healey (3) that economic and social factors are not in themselves important determinants of the outcome of this type of behavior. Forty-six children were from families of average income, 12 from families of above-average income, and 32 from families of below-average income.

The sources of referral to the hospital were as follows: social service agencies, 33; child guidance clinics, 33; direct application by parents, 5; referred by physicians, 10; referred by the courts, 6; referred by school authorities, 3.

Although speculations concerning etiology and dynamics lie beyond the scope of this paper, it might be said that in the majority of cases there was open rejection of the child on the part of one or both parents, and in the few instances of overprotection, none was marked. Categorizing the parents as openly rejecting was based on the fulfillment of any one of the following criteria: (1) Desertion of the child; (2) child voluntarily placed in foster home or institution; (3) court decision—child removed because parents were "unfit"; (4) open and constant expression of dislike of the child; (5) marked preference for another sibling.

As a group, the parents were freely expressive of their emotions and quite labile. Most of these children had the task of relating to more than 2 parental figures, having been in several foster homes, exposed to parental remarriage, or having older relatives with authority living in the home. As one of our young patients said, "Most girls have only 2 people to please, while I have 5 to deal with." Family attitudes toward the pa-

tients were constantly fluctuating and the family constellations frequently changing. Few of our children had consistent patterns to relate to.

Sibling position and size of family do not seem to be significant factors. Fifteen were only children, 14 youngest children, 24 oldest children, and 25 were intermediate. There were 20 families with 2 children, 23 with 3 children, 10 with 4, and 10 with more than 4. Of 156 siblings of our patients, at the time they were here, 16 showed some type of psychopathology. Nine mothers and 3 fathers had a history of psychosis; 19 mothers and 5 fathers had diagnosable neuroses; 20 mothers and 29 fathers had other evidence of psychopathology, such as alcoholism, gross irresponsibility, police records, etc. Thus, 85 of a total of 180 parents showed rather marked evidence of some type of personality disturbance.

Of the 90 children, 1 died before the age of 18. He had not shown any significant change in behavior at the time of his death. Of the remaining 89, we were able to follow 68 to the age of 18, 59 to the age of 25, and 48 to the age of 30 or older. Any type of follow-up contact available was used once the patients had been located; individual interviews with the patients themselves were utilized whenever possible. Failing this, interviews with close members of the family were arranged. Whenever there was a history of subsequent medical or social agency contact, records were obtained from those sources. Physicians, hospitals, guidance clinics, social and court agencies were most helpful in supplying detailed information; in no case was this refused. Information from several independent sources was available in the majority of cases; when such information conflicted, the most objective source was used. Since we were endeavoring to estimate the general social adjustment of the patient over a certain time rather than his symptomatic level on the day of interview, we have not relied too heavily on individual interviews with former patients. Some of them are able to put up an amazingly good front, only to reveal evidence of a most miserable social adjustment when material from other sources is obtained.

Our results show that the adjustment made

by the time the child reaches the age of 18 is an excellent indication of his subsequent adjustment. Almost all of the children showed some improvement in their behavior during the time they were in the hospital, and the majority continued to improve for about a year after they returned home. If the adjustment one year after observation is considered, the results would be excellent. However, the adjustment continues to fluctuate, in some cases markedly, until about the eighteenth or nineteenth year. The adjustment at that age is a much more accurate reflection of the final outcome.

None of these children was thought to be psychotic at the time of observation. Of the 66 followed to age 18, 12 had become psychotic. The diagnosis in each of these cases is based on subsequent hospitalization. These 12 are also included in the group of 47 followed to the age of 26 or older. One more has become psychotic since the age of 19, giving a total of 13 in the group followed the longest. All of these psychoses were in the schizophrenic group, and all but one have remained chronically ill. The one exception was discharged from St. Elizabeths Hospital in 1948 as a "social recovery," and she is still well 7 years later. As patients who have done poorly are easier to follow than those who have made a good adjustment, we infer that there are not many hospitalized psychotic patients in the group that we were unable to follow. Seven females and 6 males became psychotic.

At the age of 18, 15 were adjusting well, 13 males and 2 females. At the age of 26 or older, 12 of these 13 were still adjusting well socially, the other 2 were lost from the follow-up group. If the child was not adjusting well by the age of 19, he never did. Of those who did not become psychotic but who continued to make poor social adjustment, 11 spent most of their time, following discharge from the Pennsylvania Hospital, until they were 18, in some other hospital. Seven of these were subsequently able to adjust outside a hospital, so that at the age of 26, 4 patients were left who had spent the majority of their time in institutions.

By the age of 18, 12 children had court records. Six of these continued to have court records after the age of 18. Despite

their aggressive behavior as children, it is interesting to note that only one crime of violence by a member of this group has been found. This was a case of assault and battery, involving a street fight.

Three of the group are known to be dead—all males. All were accidental deaths. One died a few weeks after transfer from the Pennsylvania Hospital to another hospital. One was killed by a train while a hobo; the third killed in action during World War II. The latter's military adjustment was good; his social adjustment had been poor up to the time he entered military service.

Table 1 summarizes the factors that have been mentioned concerning the follow-up material. It is interesting to note that the girls have made much poorer adjustments than the boys. While in the total group and in the group of 66 followed, the ratio of boys to girls was $2\frac{1}{2}$ to 1, in the group that became psychotic the ratio is starting to reverse—7 females and 6 males. In the group that made good adjustment, the ratio of males to females is $6\frac{1}{2}$ to 1. In no case where behavior was a problem before the age of 5 was the outcome favorable. The parents of the children who did well are more stable than the average for our group, and, in each case with favorable outcome, the child left our hospital to return to his former home situation.

Of the 14 children who made good adjustments, 3 were from families of above-average income, 6 from families of average income, and 5 from families of below-average income. Similar figures for the group who became psychotic are 2, 4, and 7 respectively.

A report such as the following, by a wife, is typical of the group who did well:

"Martin continued to be a problem until he was 16 or 17. He quit school in the eleventh grade; had a part-time job until he was drafted. After

2½ years of noncombat, overseas service, he was discharged, and married at the age of 21. He is now completely settled down and makes a wonderful husband. He has many friends, is liked by everyone, and enjoys being with people. He is calm, quiet, even dispositioned and responsible. We have been married 10 years and have 2 children. He has worked steadily as a cab-driver with the same company for the past 7½ years."

Of his 2 siblings, 1 has been psychotic and hospitalized the past several years; the other is severely unstable emotionally.

Martin had been referred to us by a Child Guidance Clinic at the age of 10. At that time he was described as follows: "He is an aggressive type who likes to be the center of the stage. He repeatedly gets into fights, has temper tantrums, refuses to go to school, frequently truants from home and school. Neither parents nor teachers can handle him. He has been failing in school owing to indifference."

At the hospital he rapidly adjusted to group living, remained here 8 months, was seen in 6 individual psychotherapeutic sessions, and his behavior had much improved. His mother was seen in 17 interviews by a social worker, who felt that there was no basic change in her attitude. This mother was slightly overprotective, inclined to spoil the patient, an only son. Neither received any further psychotherapy.

In retrospect, looking over the records of the children who later became psychotic, 3 factors stand out: The first—already mentioned—the large percentage of females; the second, the large incidence of "sexual acting-out"—5 of the 7 females were conspicuous in this regard; 2 of the 6 males showed this behavior prior to the age of 12. These children were much more aggressive sexually than their peers. Finally, in this group of 13 children, only 3 seemed able to make any sort of adjustment to their stay at the hospital. This is in marked contrast with the group as a whole, where the usual experience was that the children adjusted quite well while here.

A comparison of the 13 children who subsequently made a psychotic adjustment with 15 who made the best adult social adjustment is quite revealing. Of course, parental attitudes, even considering only the overt ones, were much more difficult to assess than the behavior of the children, which could be observed directly. Thus, in the backgrounds of the 15 who made the optimal adjustments, 6 cases fulfilled our criteria of open rejection on the part of the parent, while in the 13 who became psychotic, there were 11 in-

TABLE 1
SUMMARY OF FOLLOW-UP

	Followed to age		
	18	19-25	26+
Total cases	66	58	47
Psychotic	12	13	12
Doing well	14	13	12
Never adjusted	34	23	15
Criminal record	7	6	5
Borderline	10	9	6

stances of open rejection. There was also a quantitative difference in the behavior of these 2 groups up to the time they were in residence here. Nine of the "well" group showed only the minimum number (4) of categories of behavior necessary for inclusion in the study, while only one of the "psychotic" group showed only the minimum number of symptoms while under observation. As expected, the group that adjusted well were, on the whole, less frequently openly rejected by their parents, and were less disturbed in their behavior as evaluated by history and direct observation. Open disobedience and restlessness were the most common findings in both groups, being nearly universal.

Table 2 compares some of the findings in the group of 90 behavior problem children with a group of 60 postencephalitic children admitted to the hospital during the same period and treated in the same environment. In the latter there was a substantiated history of encephalitis lethargica preceding the behavior change, and in all cases the diagnosis was confirmed either by objective findings while the child was here or developed during the follow-up period.

The composition of these 2 groups from the point of view of age, sex, economic and social background, and intelligence is quite similar. However, there is a striking disparity between the 2 groups when the incidence of overt psychopathology in families of each is compared. There is also a considerable difference with respect to multiple parental figures and open rejection.

Although there has been no detailed attempt to evaluate the results of individual psychotherapy, of the 39 who received this therapy, 6 later showed overt psychosis; 18 showed no apparent change in their behavior, either immediate or delayed; 8 showed immediate and maintained improvement; the status of the remaining seven is unknown.

SUMMARY

A group of 90 children, under the age of 15, with aggressive behavior was studied at the Pennsylvania Hospital (Franklin School) between 1925 and 1935. These children came largely from the Middle Atlantic States, and represented a wide

TABLE 2

COMPARISON OF BEHAVIOR PROBLEMS IN CHILDREN WITH GROUP OF POSTENCEPHALITIC CHILDREN

	Primary behavior disorder	Post-encephalitic behavior disturbance
Number of cases.....	90	60
Number of family known*...	844	560
Fathers psychotic	3	1
Mothers psychotic	9	0
Others psychotic	15	9
Fathers neurotic	5	2
Mothers neurotic	19	10
Others neurotic	7	0
Fathers psychopathic	29	9
Mothers psychopathic	20	0
Others psychopathic	25	16
Multiple parental figures..	54	16
Open rejection shown by parents	50	9
Number of siblings known...	156	178
Adjustment problems	16	9
Median age, onset (years)...	6	7
Median age at P.H. (years)...	10	11
Median IQ (Stanford-Binet)	93	87
Median length of stay at P.H. (months)	10	11
Economic status		
Above average	12	8
Average	46	33
Below average	32	19
Girls	26	17
Boys	64	43

* Grandparents, parents, full uncles and aunts.

spread in their social and economic backgrounds. In an attempt to follow these children to maturity in order to assess their subsequent life adjustment, 66 were followed to the age of 18 or over (excluding one death at age 6½). Of these 66, 13 subsequently became psychotic; 14 eventually made adequate social adjustment; 39 never made adequate adjustment. Twelve of the last group committed at least one crime of record, but only one of these crimes involved violence or destruction. In the original group, the ratio of males to females was 2½ to 1; in the psychotic group, 6 to 7; in the group adjusting well, 6 to 1. The backgrounds of these children show significant deviations from those of 60 post-encephalitic children.

CONCLUSIONS

Many theories have been advanced to explain the type of behavior disorder under discussion. Bender and Schilder (2) feel that children, deprived of their parents' love, sup-

port, and food, experience this deprivation as a direct attack with destructive tendencies to which they react with aggressiveness. They try to get satisfaction from other sources and start with a destructive search. Johnson and Szurek (12) state that "the specific stimulus for the actual living out of antisocial behavior is the unconscious, less often conscious, sanction from the parents." Griffin and Johnson (13) feel that the parents vicariously achieve gratification of their own poorly integrated forbidden impulses through a child's acting out. "One or both parents in addition unconsciously experience gratification for their own hostile and destructive wishes toward the child who is repeatedly destroyed." Sillman (14) feels that an important factor is the imitation of conduct which they observed was useful to others in securing attention.

It is not within the scope of this study to attempt to refute or confirm these theories, and there are many others not cited here. A striking feature in most of our cases is the very open attitude of the parents. There is not much indication of strongly ambivalent feelings toward the child. We rarely find parents who are accepting or overprotecting on the surface but quite rejecting underneath; or those who show little or no overt emotional reaction to their children—the "emotional iceboxes" described by Kanner as a frequent finding in the parents of autistic children.

Overt parental rejection, multiple parental figures, a high incidence of psychopathology in the immediate family, and open expression of feelings by the parents are the outstanding findings in the backgrounds of our children. Family behavior patterns seem to be very important; many of these children, brought up in environments where antisocial behavior was the rule rather than the exception, have continued to use aggressive, antisocial behavior as their accustomed means of relating to people and situations. The incidence of sociopathic behavior and overt rejection in these parents seems especially significant when compared with their much lower incidence in the parents of the postencephalitic group. Also, these findings are in marked contrast with Kanner's study of autistic children in which the parents are

often obsessive, perfectionistic, and frequently overprotective.

Economic, social, and religious status seem not to have much effect upon the symptomatology of this syndrome or its outcome. The factors important in genesis and prognosis may be found in practically any group representative of the Northeastern seaboard of the United States. The prognosis for girls showing aggressive behavior was much worse than for boys. This finding might follow from 2 quite differing factors: society may be much less tolerant of such behavior in girls, and hence restrict them to a much greater degree, secondly, such behavior in girls may be indicative of more deep-seated psychopathology than is the case with boys—certainly, a much larger percentage of the girls became psychotic.

Sexual acting out (open sex play, either heterosexual or homosexual, open masturbation, and sexual exhibitionism) by the age of 12, and inability to adjust to their peers while undergoing the group experience at the hospital were indicative of a poor prognosis. The adjustment achieved by the child at age 18 in almost every case showed little further change. Previous to that age there is often considerable fluctuation, and it is difficult to predict what the final outcome will be. Twenty-one percent of these children were making normal adjustments at the age of 18; this percentage was not significantly changed in longer follow-up studies. The effectiveness of various therapies in aiding this type of childhood behavior may be compared with our finding of 21%. We hope that current therapies will be found more effective when sufficient time has elapsed to evaluate them. Immediately following their experience here, 66% of the children showed considerable improvement in their behavior. Contrasting this figure with the later finding of 21% clearly demonstrates how misleading immediate results can be when attempting to predict the permanent value of treatment. This conclusion is further substantiated by the finding that several of the children listed as unimproved at the time of discharge later made good adjustments.

BIBLIOGRAPHY

1. Bond, E. D., and Smith, L. H. *Am. J. Psychiat.*, 92: 17, July, 1935.

2. Bender, L. and Schilder, P. *Genet. Psych. Mono.*, 18: 410, October-December, 1935.
3. Healey, W., and Bronner, A. *Delinquents and Criminals*. New York: MacMillan, 1926.
4. Glueck, S., and Glueck, E., *Juvenile Delinquents Grown Up*. New York: Commonwealth Fund, 1940.
5. Curran, F. J. *J.A.M.A.*, 157: 108, Jan. 1955.
6. Morris, D., Soroker, E., and Burruss, G. *Am. J. Orthopsychiat.*, 24: 743, Oct. 1954.
7. Robins, E., and O'Neal, P. *The Nervous Child*, 10: 246, 1953.
8. *Smith College Studies in Social Work*.
9. Bond, E. D., and Appel, K. E. *The Treatment of Behavior Disorders Following Encephalitis*. New York: Commonwealth Fund, 1931.
10. Kanner, L. *Child Psychiatry*, Springfield: C. C. Thomas, 1948.
11. Adler, A. *Proc. 12th Inst. of Child Research. Woods Schools*, November, 1945.
12. Johnson, A., and Szurek, S. A. *J.A.M.A.*, 154: 814, Mar. 6, 1954.
13. Griffin, M. E., Johnson, A. M., Litin, E. H. *Am. J. Orthopsychiat.*, 24: 668, Oct. 1954.
14. Sillman, M. Role of imitation in creating behavior problems in children. *Smith College Studies*, 1: 302, 1930-31 (abstract). *Smith College, Northampton, Mass.*
15. Hewitt, L. E., and Jenkins, R. L. *Fundamental Patterns of Maladjustment*. State of Illinois, 1946.
16. Lewis, Hilda. *Deprived Children*. London: Oxford University Press, 1954.

A PRISONER OF WAR SYNDROME: APATHY AS A REACTION TO SEVERE STRESS¹

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PROBLEM AND METHOD

This paper is based on 201 psychiatric interviews and 80 psychological test protocols⁴ of United States prisoners of war repatriated by the Chinese and North Koreans in August 1953. Interviews were conducted within 1 to 18 days after repatriation at Inchon, Korea, and on board ship en route home. Rorschach, Thematic Apperception Test (10 cards),⁵ and Sacks Sentence Completion Test protocols were obtained on board. All subjects were selected at random and the samples interviewed and tested were subsequently found to be representative of the total population of repatriated POW's with respect to age and length of service, but the sample tested contained a higher percentage of officers than the total group. There is no overlap between the sample of men interviewed and the sample of men tested.

We attempted to determine: (1) what types of stresses the POW's faced during their internment, (2) what their major psychological reactions to such stresses were, and (3) their reactions following repatriation.

STRESS

Since the end of the Korean conflict, a number of scientific papers and magazine articles have described the ordeal endured by the men captured (1-8). For the purposes of this report we shall list only those constellations of stresses which we viewed as crucial

in producing psychological changes. (1) *Cycles of realistic anxiety and their relief*: During combat, the early phases of imprisonment, on the marches, and in the temporary camps, the men were chronically being threatened with death, physical maltreatment and nonrepatriation. Fears aroused by such threats were alleviated by concrete events or elaborate promises on the part of the captors, only to be re-aroused somewhat later for reasons that seemed irrational or inconsistent to the POW's. Such cycles of fear and their relief continued for months. Hostility toward the captors was aroused by the chronic disappointment and fear but had to be suppressed at all times. (2) *Starvation, disease, and inadequate shelter*: Physical conditions, food, and shelter were so bad in the early days after capture that most men had to concentrate merely on staying alive. Making realistic plans for escape or for the future was impossible when starvation or death from dysentery, pneumonia, or exposure was an immediate and direct threat. (3) *Indoctrination at permanent camps*: In the permanent camps physical conditions improved somewhat, but the POW's then found themselves in a situation where the maintenance of American social and cultural values brought further threat, punishment, and marginal physical conditions, while the acceptance of the communistic ideology, or cooperation with the Chinese in collaborative activities, brought increases in food, physical comforts, privileges in camp, and promises of early repatriation.

REPORTED REACTIONS TO STRESSES OF IMPRISONMENT

As one listened to the POW's relating their experiences, it became apparent that one

¹ Read at the 111th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1955. Published with approval of Chief Prof. Services, N.P. Hospital, Veterans Administration Center, Los Angeles, Calif.

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⁵ All interviews were carried out by Dr. Strassman. Tests were administered by Army psychologists Lt. Alan Ross, Lt. James Parker, and Lt. Martin Gluck.

⁶ Cards 2, 6BM, 8BM, 9BM, 12M, 13MF, 17 GF, 17BM, 18BM, 20 were used.

psychological reaction appeared at some time or another, with varying intensity, in almost every man. This reaction can best be described as a marked withdrawal of involvement with the current situation, accompanied by a paucity of emotion. The men exhibiting this reaction appeared to other POW's to be listless, indifferent, and completely absorbed or preoccupied with themselves. When spoken to, such men would respond rationally and appropriately, but then would quickly return to their previous state. They took no concerted action toward solving the problems of being a POW, although they could be pushed to action by a leader. Since the content of their speech and their behavior did not suggest depression or psychosis, the reaction seems best characterized by the term "apathy."

According to the accounts of POW's, the reaction occurred in almost every man at some time or another, though the degree and type of stress needed to produce it and the depth and duration of the symptoms varied greatly with different individuals. The severest "apathy" reactions occurred in the winter of 1950, when large numbers of men were captured, marched north, and quartered for weeks on end in inadequately supplied temporary camps. Disease was very prevalent at this time, and many men died of dysentery, pneumonia, or exposure; but, according to a number of observers, including American medical corps officers who were themselves POW's, some of the deaths did not seem warranted by the physical conditions of the men, who seemed to become listless and indifferent to taking care of their bodily needs. They retreated further within themselves, refusing to eat even what food was available, and eventually lay down and curled up, as if waiting for death to overtake them. The reports are emphatic concerning the lucidity and sanity of these men—they seemed simply to give up and accept the prospect of death rather than to continue fighting a severely frustrating and depriving environment.

Two things seemed to save the man close to "apathy" death: getting him on his feet doing something, no matter how trivial, and getting him interested in some current or future problem. It was usually the effort of a friend who maternally and insistently moti-

vated the individual toward realistic goals, or the realization of ties to loved ones at home, that snapped him out of such a state of resignation.

When the men were moved into permanent camps, the food and living conditions improved greatly and the number of such severe "apathy" reactions correspondingly dropped. However, it became clear to the men soon after daily exposure to the Chinese indoctrination efforts, that the only way to keep from either collaborating or resisting to the point of eliciting punishment, was to withdraw as much as possible from any but routine interactions with either the Chinese or other POW's. Withdrawal from other POW's was fostered by the Chinese method of breaking up whatever group ties formed, by changing the membership of groups, and by segregating leaders. It was strongly reinforced by the presence in the groups of known or unknown informers which made the formation of close personal ties difficult.

Most men adopted a pattern of what they called "playing it cool," which involved being aloof, unresponsive, minimally communicative, and noncommittal on everything. They were caught in the conflict between cooperating with the Chinese to a point of arousing the suspicion and hostility of their fellow POW's, on the one hand, and resisting to a point of eliciting the hostility of the Chinese, on the other. To avoid involvement necessitated the continued suppression of most feelings, particularly hostility, and such suppression had to be maintained for 1 to 3 years for most POW's. In this adjustment there was no evidence of resignation or giving up; rather it was a chronic living from day to day without allowing oneself to become dependent on anything or anybody. The men were waiting and watching rather than hoping and planning.

This behavior was heavily reinforced by the feeling of hopelessness concerning their chances of being repatriated. Not until the prisoner of war lists had been exchanged at Panmunjom was there in the majority of men any realistic thinking about the future and returning home. Only in the last months of imprisonment did conditions become sufficiently tolerable to allow men once more to take an active interest in camp activities and

to get involved with the Chinese by more active resistance to indoctrination techniques, though by this time the Chinese were making few systematic efforts to indoctrinate.

OBSERVED REACTIONS AFTER REPATRIATION AND PSYCHOLOGICAL TEST RESULTS

The behavior of most of the men immediately following repatriation was somewhat surprising in that they exhibited remarkably little enthusiasm at being free, indicated no strong desires to go home, offered no spontaneous comments on their recent experiences, and verbalized little hostility toward their captors. They seemed preoccupied, quiet, and somewhat listless, though they responded appropriately when interviewed. Their emotional expressions were qualitatively appropriate but very subdued or modulated. Anxiety was not prevalent as a symptom.

This pattern did not last very long. One could observe changes in repatriates even during the 2 or 3 days that they were at Inchon, and on board ship. Those men who were interviewed on board ship, and who had therefore been repatriated for a longer period, could generally not on casual observation be distinguished from other rotating troops. They were more realistic and positively motivated, more enthusiasm and emotion became evident, and some hostility toward the communists began to be verbalized.

This change also showed up in the incidence of the diagnosis of "apathy reaction" in the 201 interviews analyzed. Of those men interviewed within 4 days after repatriation, 28% were diagnosed as being severely apathetic, while of those interviewed within 5 to 18 days, only 7% were so diagnosed. These findings seemed to suggest that the apathetic adjustment which was appropriate to life in prison camp was quickly abandoned once the man was removed from the stressful environment.

However, the psychological test data and closer observation indicated that underneath the more normal-appearing behavior lay considerable conflict, particularly concerning the expression of hostility. Only 24% of the test records resembled those of "normal" samples of soldiers tested in the U. S. Thirty percent of the records indicated the presence

of severe emotional disturbance such as marked acting-out tendencies, strong anxiety or guilt, or trends toward thinking defects. The remaining 46% showed a marked constriction of outlook consistent with varying degrees of "apathy," but combined with strong pent-up aggressive-destructive feelings.

The records of this third group were arbitrarily delineated from the others on the following basis: Eleven or fewer responses on the Rorschach, mere description of the TAT cards or 1- or 2-sentence remarks enumerating persons or objects, and 1- or 2-word cliches or omissions on the Sacks Sentence Completion items. The content of these records indicated considerable emotional flatness, attenuation of feelings, and an increased dependency on fantasy rather than motor outlets to relieve tension. In the instances where emotion broke through it was of an aggressive-destructive variety such as "two men pulling a man's body apart, they have torn his chest open and ripped out his heart" (to card 3 of the Rorschach), or "a bat with its wings ripped off and split open" (card 5)¹.

The content of the 800 TAT stories was grouped under the headings shown in Table 1. In the "apathy" group 98% of the stories were omissions, card description, or depicted actions involving low mood tone and little interaction. Such a high degree of constriction would be expected in only 5-10% of groups of "normal" records(9), whereas it is present in 46% of the POW records.

On the Sentence Completion items dependency needs, passivity feelings, and low mood tone were again evident. The lack of the usual varieties of affect was outstanding in the "apathy" records. Associations or stories revealing special personal interests, longings, positive drives, creative fantasies,

¹ To check the reliability of the authors' observations, 20 randomly selected test batteries from this group were given to 3 psychologists who were asked to study the records and briefly characterize their outstanding features. The raters were told the age range and that these were service personnel. Each rater emphasized the low productivity, slow reaction time, and generally limited range of affect besides the obvious aggressive-destructive content. Each rater also pointed out that the group might appear emotionally flat and impoverished except for the latent destructive drives.

TABLE 1
RELATIVE FREQUENCY OF THEMES ON TEN TAT CARDS

Type of story	Percent of stories					
	Apathy		Disturbed		Normal	
1. Low mood tone, little interaction or activity....	(114)	31.0%	(87)	36.0%	(23)	12.0%
2. Card descriptions	(237)	64.0	(36)	15.0	(9)	4.0
3. Omitted (can't think of a story).....	(12)	3.0	(2)	1.0	(0)	0.0
4. Person interacts with environment to receive (eating, drinking, being helped).....	(5)	1.0	(67)	28.0	(55)	29.0
5. Future action being planned.....	(2)	0.5	(48)	20.0	(103)	54.0
Total stories (800).....	370	100.0%	240	100.0%	190	100.0%

and even the usual indexes of anxiety and hostility were practically absent in this group.

Thus, psychological test data indicate that constriction and "apathy" were still evident 1-2 weeks after repatriation in almost half of the group tested, and that underlying the "apathy" were excessive pent-up aggressive-destructive drives.

DISCUSSION

The foregoing data indicate that one of the most prevalent reactions of POW's to severe and chronic physical and psychological stress is a withdrawal from involvement with the environment and a constriction of overt behavior and emotional responses. Such a withdrawal does not involve any disintegration of the personality or the development of a psychotic adjustment. The person can maintain his ability to respond appropriately and is capable of distinguishing internal and external reality. He is aware of his surroundings and what is going on but his own responses to it are sharply inhibited and suppressed. It appears that even when such a defensive mechanism brings the person to death, no evidence of frank psychosis can be seen. We have called this pattern of symptoms "apathy" and prefer not to think of it as an absolute state but as a syndrome which can be present in differing degrees.

"Apathy" may be confused with 3 other psychiatric states. In catatonic stupor there is greater regression and complete withdrawal from reality. In psychosis there are bizarre thoughts and behaviors. In depression, expressions of guilt, worthlessness, inadequacy, and preoccupation with death are verbalized. In "apathy" such verbalizations are absent, thought remains rational, and emotions remain qualitatively appropriate

even when they are quantitatively attenuated.

The severity of the syndrome seems to vary with the degree of stress and deprivation in the environment, all the way from the less severe emotional withdrawal seen in POW's after repatriation (the "playing it cool" reaction), to the more severe states reported in the temporary camps which sometimes resulted in death. Severe states such as the latter have been reported by Nardini (10) in American prisoners of the Japanese, by Tas (11), Cohen (12), and Bettelheim (13) in concentration camps, and by Greenson (14) in World War II Air Force personnel stationed at isolated outposts.

Greenson postulated a dynamic formulation for the development of "apathy." He states:

The personality structure of the apathetic patient indicates 2 important changes: there is evidence of a regression to a passive, oral, narcissistic, libidinal level as well as a severe restriction of ego functioning. . . . In order to understand how deprivation causes apathy it is important to remember the basic needs for food and love in the human infant. In order to survive, food is necessary in the first few days of life. Love and its derivatives seem to be essential already in the first few months of life. Infants who are given the proper amount of physical care but who do not receive an adequate amount of mothering manifest the clinical picture of apathy (15, 16). Early in the infant's history the mother's milk serves to gratify both the instinctual and the narcissistic needs (17). The helpless infant is utterly dependent on some adult for its physical and mental equilibrium. . . . The need to be loved, which was essential for the infant, diminishes with the development of the super-ego: self-esteem then provides much of the security formerly derived from being loved. To feel loved and cared for, to be needed and wanted, are nevertheless necessary for the maintenance of self-esteem throughout life. . . . It seems that starvation plays a dual role in producing apathy. Physiologically the lack of adequate nourishment brings about a state of marasmus, the physical response to the depletion of the essential bodily

needs. Psychologically, the lack of food is felt as loss of love. This loss of love then diminishes the feeling of self-esteem which results in the feeling of having been abandoned (14, pp. 295-297).

Captives of the Chinese indicated not only a problem with starvation, but one which came from particularly acute feelings of abandonment because they were not at all sure that they would ever be repatriated. Deliberately fostered legends of banishments to Siberia or summary execution were sufficiently prevalent that many men felt truly without hope for the future. Under such conditions some seemed to return psychologically to a state in which all power and authority were again seen as external to themselves.

Accounts that men survived if a buddy cajoled or forced them into activity and survival behavior, or the man's realization that he had ties to loved ones at home, is generally consistent with Greenson's hypothesis that the regression is to an infantile state where one gains psychological sustenance from the fantasy of being fed by the mother who gives food and love. The buddy replaces the fantasied mother and becomes a reality object who feeds and loves, while the memory of the loved ones at home represents a real object to whom one can return.

The emotional withdrawal observed in the permanent POW camps ("playing it cool") seems to differ both in degree and kind from the more severe "apathy" described above. The more adequate diet and improved living conditions reduced the threat of death from malnutrition and disease. The problem for the men was no longer merely to survive, but rather to avoid involvement in the various Chinese enterprises.

Observations of repatriates after their return from prison camp revealed this syndrome in varying degrees. In effect, many of the repatriates behaved toward members of the psychiatric and medical teams as if they were still in prison camp and must avoid showing any feeling or initiating any action. Spontaneous behavior seemed to return within a few days, but close observation suggested that it was manifested only in situations that allowed stereotyped responses or feelings to emerge. The psychological test data strongly suggested that in the majority of repatriates the "apathy" defense was still

operating strongly as long as 2 weeks following repatriation.

Part of the explanation for this continued utilization of "apathy" as a defense may lie in the fact that the repatriation was itself highly stressful in many ways. Many POW's felt that they would not be welcome, and felt guilty for having been captured and in many cases for having cooperated with the enemy. They were faced with resuming many of the responsibilities of life back home, yet felt 3 years "behind" in all their relationships. They had the problem of dealing with great quantities of pent-up hostility in an environment where its proper object, the Chinese captor, was no longer present. Some days after repatriation such feeling began to be verbalized. The men expressed intentions of re-enlisting to fight communism on whatever front developed, verbalizing an indiscriminate hatred of anyone or anything associated with communism; they expressed proposals such as "one ought to blow up the *Daily Worker* building," or "all commies should be deported, or sent to North Korea to see what it is like first-hand"; they were going to "slug" anyone who accused them of having collaborated, and they were going to "get the rats" who had.

None of the intentions thus verbalized sounded as if they had been thought through. They sounded immature and as if they were motivated by a kind of indiscriminate need to hit back at anything for all the frustration of the past years. Yet it was clear that the feelings of hostility were so strong that the men were afraid to express them in action, lest they get out of hand. Therefore, the best way to handle them was to keep them bottled up, and to prevent further provocation by remaining withdrawn and uninvolved with the environment.

After these men returned home, anecdotal evidence indicated that problems of expressing hostility continued, since a number of POW's got into difficulty involving indiscriminate outbursts of misdirected aggression. One may also conjecture that one reason for their strongly expressed desire to get together with other former POW's was motivated by the desire to express hostility toward the captors in fantasy, an activity which could be successful only among men who

shared the same feelings. Such get-togethers would protect the repatriates from misdirected outbursts by keeping the feelings within safe social bounds. The mutual support which men could give each other in such groups by airing their respective problems and solutions also probably played a key role.

SUMMARY AND CONCLUSIONS

We have pointed out that one defensive adjustment of POW's to stress is withdrawal. If the stresses are not too severe the person will withdraw physically if possible, or in any case will refuse to allow himself to become involved with the environment to as great an extent as possible. Certain kinds of overt behavior will be inhibited and most emotional responses will be suppressed. If the environment is severely stressful and physically depriving as well, the individual may regress into a more complete withdrawal and adopt a maladaptive state of dependency in which he ceases to take care of himself even to the point of death. We have labelled this type of defense "apathy" and distinguish it from states like catatonic stupor, or depression. "Apathy" appears not to be a single absolute reaction, but a syndrome which can vary markedly in degree. One major symptom in the syndrome is reduced or modulated affect, but only in extreme cases can one speak of true apathy or affectlessness. Other symptoms are listlessness, uncommunicativeness, lack of spontaneity, indifference, slowed reactions, lack of enthusiasm, and lack of initiative. It is important to note that underlying the overt lack of emotional spontaneity may lie great quantities of pent-up feelings, and that

these will continue to be a problem to the individual when he is no longer in the environment that produced the "apathy syndrome."

The apathy syndrome serves to maintain personality integration in the face of severe reality and psychological stresses.

BIBLIOGRAPHY

1. Segal, H. A. *Am. J. Psychiat.*, **111**: 358, Nov. 1954.
2. Lifton, R. J. *Am. J. Psychiat.*, **110**: 732, Apr. 1954.
3. Communist War in POW Camps. Dept. of State Bull., **28**: 273, Feb. 16, 1953.
4. Release of Anti-Communist Prisoners from UN Camps and Correspondence. Dept. of State Bull., **28**: 905, June 29, 1953.
5. Dulles, J. F. Dept. of State Bull., **29**: 235, Aug. 24, 1953.
6. Dulles, A. W. Brain warfare—Russia's secret weapon. *U. S. News and World Report*, p. 54, May 8, 1953.
7. Mayo, C. W. Destroying American minds: Russians made it a science. Text of report to political committee, UN, *U. S. News and World Report*, pp. 35, Nov. 6, 1953.
8. Schein, E. H. Some observations on the Chinese indoctrination program for prisoners of war. *Psychiatry*. In press.
9. Eron, L. D. A Normative Study of the Thematic Apperception Test. *Psychol. Monogr.*, **64**: 9, 1950, (whole monograph).
10. Nardini, J. E. *Am. J. Psychiat.*, **109**: 241, Oct. 1952.
11. Tas, J. *Psychiat. Quart.*, **25**: 629, Oct. 1951.
12. Cohen, E. A. *Human Behavior in the Concentration Camp*. New York: Norton, 1953.
13. Bettelheim, B. J. *Abnorm. Soc. Psychol.*, **38**: 417, 1943.
14. Greenson, R. R. *Psychoanal. Quart.*, **18**: 290, 1949.
15. Ribble, Margaret. *The Rights of Infants*. New York: Columbia University Press, 1944.
16. Spitz, R. *Psychoanal. Study of the Child*, **1**: 53, 1945.

AN APPROACH TO ALCOHOLISM IN THE MILITARY SERVICE^{1, 2}

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In the old days it was traditional for the military man to be a hard-drinking fellow. The lore of the military service is filled with stories about alcohol, its consumption in large quantities, its procurement and concealment, and the various adventures associated therewith. The role of alcoholic beverages in military society was generally accepted and many aspects of social status were influenced by the use of alcohol. "Don't trust a man who won't drink with you" has been a classical sentiment among soldiers through the ages.

The past 15 years have brought many changes to military life. The nature of the present peacetime military establishment requires a high level of alertness and a greater degree of individual responsibility than ever before. The irresponsibility that often comes with chronic alcoholism cannot be tolerated in an effective modern military organization. Thus punitive regulations have been evolved which place chronic alcoholism on a par with criminality and sexual perversion, subjecting the alcoholic to discharge without honor as unfit. No provision is made for treatment. In fact, hospitalization for alcoholism is "bad time" during which the patient's pay ceases.

When unofficial acceptance of heavy drinking co-exists with strongly punitive official policies, a situation arises in which it is impossible to determine accurately the incidence of chronic alcoholism. Physicians hesitate to make the diagnosis, labelling patients as cases of polyneuritis, acute gastritis,

neurotic depressive reaction, "medical observation," and the like. A firm diagnosis of chronic alcoholism depends considerably upon the history, and a man is unlikely to be frank with the doctor when he knows it will mean loss of pay and possible punitive action and disgrace.

The commander also faces a dilemma. A 40-year-old master sergeant with 17 years of honorable service, who has passed across the vague borderline between heavy drinking and chronic alcoholism, and who now is becoming less effective but is still a valuable person, must be brought in repeatedly for counselling. The commander finds that he cannot get the sergeant to "straighten out." He must take action, so the sergeant is referred to the medics. But the medics are not supposed to treat the sergeant as a medical problem, *per se*. Unless they are able to find some physical or psychiatric illness of a type and severity warranting separation from the service under medical regulations, the patient must be returned to his unhappy commander who has little choice but to wait until the inevitable failures on the job lead to the sergeant's demotion, imprisonment, and eventual discharge with a piece of paper labelling him as an undesirable person who is ineligible for many veteran's benefits and who could hardly be considered employable.

There can be no doubt that chronic alcoholics are sometimes discharged medically with other diagnoses. Furthermore, many are separated under administrative regulations for a variety of reasons (ineffectiveness, repeated absences without leave, financial irresponsibility, etc.), often following a series of trials by courts martial. Many do not re-enlist because they recognize that they are on the verge of serious trouble. Among officers it is even more difficult to evaluate the number of chronic alcoholics, many of whom are permitted to resign in lieu of trial by court martial for reasons such as "conduct unbecoming an officer."

Without even a good approximation of the number of chronic alcoholics in the military

¹ Read at the 111th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1955.

² The opinions expressed in this article are the personal opinions of the authors, and in no way comprise official or unofficial policies or attitudes of the United States Air Force.

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service, it is impossible to estimate the cost of this disease to the government. Cost factors must include the value of those individuals lost; the expense of their training; the training of replacements; hospitalization; losses through accidents, errors in judgment, and substandard performance; board actions and courts martial (a general court martial costs \$4,320); maintenance of alcoholics in stockades and other confinement; and pensions for those who develop secondary physical or psychiatric disorders for which they are retired.

THE PROGRAM

In January 1953 a small experimental program was initiated at the 3700th USAF Hospital with the approval of the Hospital and Base Commanders and the Office of the Surgeon General. Treatment was offered to a selected group of alcoholics. Criteria for selection included: (1) proved value to the Air Force through a record of achievement; (2) knowledge and approval of the patient's commander; (3) the economy that could be effected through successful rehabilitation, without military risk.

The program was not considered an experiment in the controlled sense, but rather a pilot study to work out methods for a possible new approach to the problem of chronic alcoholism in the military service.

Our working definition of chronic alcoholism was that used by Diethelm(1): "A patient suffers from chronic alcoholism if he uses alcohol to such an extent that it interferes with a successful life (including physical, personality, and social aspects), and he is either not able to recognize this effect, or is not able to control his alcohol consumption although he knows its disastrous results." The therapeutic approach was based upon a concept of chronic alcoholism as an illness of multiple causation. Genetotropic, hormonal, neurological, psychodynamic, and social factors were considered in each case. The various forms of treatment included a high-dosage vitamin regime, adrenal cortical extract, tetraethylthiuram disulfide (Antabuse), chlorpromazine, reserpine dynamic psychotherapy, and Alcoholics Anonymous (A.A.).

A model working arrangement was evolved

in which the medical and A.A. programs were closely integrated. A noncommissioned officer, himself an experienced and active worker in A.A. for more than 5 years, was assigned to spend full time on the experimental program. Experience proved that strictly military A.A. meetings, held on the base, were less satisfactory than those held by the regular civilian A.A. units in San Antonio. Accordingly, the A.A. guided prospective members to meetings as soon as possible after medical treatment was underway. Small group psychotherapy sessions were begun on the ward if two or more alcoholic patients chanced to be hospitalized at the same time. The A.A. worker, functioning as a psychiatric social worker, interviewed the patient, his family, his commander, and others interested in his rehabilitation. Administrative difficulties (in which the patient was usually involved) were evaluated and realistic solutions were sought. Some sort of marriage counselling was nearly always required.

The medical aspects of rehabilitation were based upon the initial examinations, the response to treatment of acute presenting symptoms, and the finding that no significant deterioration or serious permanent damage had yet occurred.

Patients showing evidence of hypoadrenocorticism were treated with aqueous adrenal cortex extract (ACE) or in a few cases with Lipo-adrenal Cortex. The rationale and dosage schedules for this treatment were derived from the studies by Lovell and Tintera(2).

All hospitalized patients were initially treated with therapeutic doses of vitamins. A number were maintained on high daily doses of vitamins (Tycopan) upon the finding of an apparent relationship between discontinuance of the medication and recurrence of a sense of craving for alcohol. Doses of 3 standard capsules, t.i.d., were employed, as originally described by Williams(3).

Antabuse was administered to patients who requested it after having received an explanation of the benefits and risks involved, and who were considered by the physician to be suitable subjects. The precautions and general method of treatment were adapted from those originally cited by Jacobsen and Martensen-Larsen(4). The average mainte-

nance dose was 0.5 gm. daily. Discontinuance was worked out in each case according to the wishes of the patient, the judgment of the physician, and the evaluation of the A.A. worker concerning the ability of the patient to become a part of the A.A. program.

Chlorpromazine (Thorazine) has been increasingly employed in recent months. It has proved to be very helpful in treatment of the acute symptoms of the newly-hospitalized alcoholic patient. It has also been incorporated into long-term therapy as a pharmacological supportive agent, to enable the patient to manage tension-laden periods without resort to alcohol and ordinary sedatives while he is in the process of reorganizing his way of life. Doses of 40 to 200 mg. daily are usually sufficient. After a stable period back on the job, the patient's medication is discontinued (usually with no prompt recurrence of symptoms of tension) and he keeps a supply on hand. When marked tension and anxiety occur as a result of some stressful life situation, the patient takes chlorpromazine to obtain relief and thus diminish the risk of turning to alcohol before he might be able to confer with the doctor or with the A.A. worker. Reserpine (Serpasil) has also been used with some benefit in this fashion.

It was not felt that our limited study should attempt to test the rationale for these treatments; their apparent contribution to the goal of maintenance of sobriety in any given case was deemed sufficient justification for their use.

A few patients were able to obtain and utilize fairly intensive individual psychotherapy. Most were of above average intelligence (although oversensitive) and all were effective in their jobs when sober. Latent homosexual factors as a rule were not explored; instead means were sought to strengthen those ego defenses that were already available. In a few cases hypnotherapy was employed. Psychotherapeutic techniques varied from simple supportive methods to analysis and interpretation of previously unconscious material.

About two-thirds of the cases received almost no individual psychotherapy after they were returned to a fairly stable pattern of living. The major influence of significance in

these cases was that of A.A. Some patients did not enter into the A.A. activities with religious fervor, but there were very few who failed to derive definite benefit from membership in the organization. The key factor in the success of this aspect of the program was found to be the activity of the military A.A. worker. His availability and his familiarity with the peculiar stresses of military life, together with his own typical history, made him highly effective in dealing with the majority of patients treated. The therapeutic success of A.A. is of particular interest in view of the large number of "rules" of psychotherapy that it breaks with impunity, as pointed out by Tiebout (5). At the same time, our A.A. worker found that his close association with a psychiatric unit definitely increased his effectiveness.

A modest educational program was included in the contribution of the A.A. worker. This consisted of informal talks and lectures, films, pamphlets, and hygienic advice. Arrangements were usually made through the assistance of chaplains, line officers, traffic safety project officers, training officers, and the like.

Throughout the entire study a flexible attitude was maintained, with the understanding that the treatment must meet the patient's needs. Some patients rejected A.A. but were helped by psychotherapy. Others obtained little benefit from one form of medical management, only to respond in a gratifying fashion to something else, or to a combination of methods. A few received no apparent benefit from medical or psychiatric methods but were highly successful in their ability to utilize the spiritual aspects of the A.A. program. Such variability was to be expected in view of the heterogeneous population involved, with marked cultural and constitutional differences, and the relative influence of one or another of many psychodynamic factors. All cases had this in common: that a mounting *feeling* of discomfort was present, and that alcohol was needed to relieve this feeling, and that this need became so strong that the knowledge of the inevitable results did not suffice as a deterrent. The feeling itself might be anxiety, boredom, depression, tension, resentment or anger. Often there was very little insight regarding

these emotions. Precipitating factors might originate in the family, on the job, or on the basis of memories and fantasies. No single approach could rationally be expected to meet the needs of every patient. Experience taught us many lessons in selection of the right approach to each patient. In time these may be organized sufficiently to permit an increasingly reliable group of indications for any given treatment or combination of treatments.

As it became known that help was available, and that no punitive action was forthcoming against those seeking assistance under this program, increasing numbers of patients approached the A.A. worker for guidance before hospitalization became necessary. As a result, the proportion of cases in which little or no medical attention was required showed a steady increase as the program progressed. Unit commanders have been quick to take advantage of the possibility of retaining valuable people who are obviously in trouble, and the commanders themselves have made a number of referrals. One sizeable military installation nearby initiated a somewhat similar program, after several of its key personnel received assistance at the 3700th USAF Hospital and subsequently demonstrated that rehabilitation was successful.

RESULTS

Successful return to duty, good performance, and maintenance of sobriety are the criteria for evaluation of results. The success of the program cannot be measured easily, because increasing numbers of alcoholic airmen and officers are now seeking assistance directly from A.A. Information about the program has obviously been spread by word of mouth since its inception, and the humble educational projects have had a surprising impact.

An analysis of the first 50 consecutive cases that were contacted since the experimental program began reveals that 16 received medical and psychotherapeutic help only; 12 received assistance from A.A. only; and the remaining 22 received combined medical and A.A. treatment. Patients ranged in rank from basic airman to colonel. The

average length of service was 10 years. All of the basic airmen had previously held higher rank but had been demoted as a direct or indirect consequence of alcoholism. The follow-up period ranges from 5 to 29 months.

Of the 50 cases, 26% (13 cases) are considered as failures.⁵ Five of these never accepted themselves as alcoholics and refused to follow any advice that might lead to rehabilitation. An additional 10% (5 cases) could not be followed because of transfers overseas. Fourteen per cent (7 cases) are considered improved, and are doing well despite one or more episodes of drinking since rehabilitation measures were begun. The remaining 50% (25 cases) are much improved, with maintenance of sobriety from the beginning, and continuously successful performance of duty.

The value of these results is difficult to measure, for reasons previously mentioned. The cost of the program itself has not been appreciable. There can be no question that nearly all of these men were on the verge of disaster in their military careers. Most of them would certainly have been lost to the service. The value of 25 highly trained airmen and officers of a variety of ranks and specialties defies calculation. Recently published figures(6) give the cost of replacing a man with 4 years of service at a minimum of nearly \$15,000. A highly trained enlisted man, such as an electronics technician, is worth \$75,000. Officers are even more expensive to replace, and the training of a qualified pilot for jet bombers ranges up to a cost of \$500,000.

A conservative estimate of the cost of replacement of an average patient in our successfully treated group is \$40,000. Thus, looking at replacement-cost, and assuming (albeit gratuitously) that the 25 most successfully treated cases would otherwise have been lost and are now definitely saved, one arrives at a minimum figure of one million dollars.

⁵ At least 3 of these "failures," having left the service, now report that they actually benefited considerably from the efforts that were made in their behalf. They give the rehabilitation program credit for the fact that they have adjusted successfully in civilian life with the maintenance of sobriety, in 2 cases for over a year, through civilian A. A. programs.

The total value of the program, however, is not reflected by such figures. It is of great interest to note that the original percentage of cases requiring medical management has steadily decreased, and that the number of spontaneous referrals to A.A. has increased. The number of air force personnel who recently have joined the ranks of the San Antonio A.A. represents a bonus in terms of preventive psychiatry. There is no way of knowing how many airmen and officers have been helped at still an earlier stage, through the educational program, becoming abstainers or rigidly controlled moderate drinkers because of a heightened awareness of the dangers of chronic alcoholism. Furthermore, the military community benefits from the increased stability of each home formerly made chaotic by the alcoholic family-head, and the civilian community benefits in a similar fashion.

The "success" of the program is not startling. In a way, it couldn't fail, since it met a need that previously could not be met, although it should be pointed out that isolated programs involving treatment of alcoholics in the military service have previously been reported, such as that by Brown and Knoblock (7). It may be that the time is approaching when a modification of official policies concerning chronic alcoholism will be forthcoming, similar to the change in policy on venereal disease that was so effective in cutting down the incidence of chronic infection.

Based upon the results of this pilot study, and the lessons learned during the past 2 years, the following points are offered as a basis for a new approach to chronic alcoholism in the military service:

1. Recognition of the scope and significance of the problem should be given.

2. An education program, service-wide, should be initiated. This should include the following points: (a.) Commanders, chaplains, and physicians should be informed about basic facts concerning alcoholism, the kind of medical treatment that may be available, and the desirability of forming a liaison with the local A.A. unit, preferably through an A.A. member in the command. (b.) Troops should be indoctrinated regarding the dangers of alcoholism, recognition of

early symptoms, and the means for obtaining help without risk or stigma. Failure to seek such help, after the problem has been recognized, may then be considered reprehensible.

3. Rehabilitation measures should be available at all major installations.

4. Individuals seeking aid, or referred by chaplains and commanders before serious violations of military law have occurred, should be evaluated by a psychiatrist. If it is clear on initial examination that a full-blown neurosis or a psychosis is the primary problem, the patient can be separated through medical channels. If this is not the case, and the patient's record shows him to be valuable when sober, a program of treatment and membership in A.A. should be attempted. If the rehabilitation program fails, or if a character disorder or immaturity reaction of major proportions is present (making the patient of doubtful value to the military service even should he maintain sobriety), a "general discharge" under honorable conditions, or separation for the convenience of the government, can be recommended. Such separations, being less desirable than a regular honorable discharge, would usually be called for in the case of a relative newcomer to the service. But even if it should prove necessary in an older man, it would not deprive him of the benefits of whatever worthwhile service he had given, and would not stigmatize him as much as does an "undesirable discharge." Such punitive measures should be reserved for those individuals who have actually repeatedly violated military law, and who failed to present themselves for treatment of their alcoholism even though such treatment would now be available without risk. This latter change in policy would correspond in general with the newer policies concerning venereal disease. Naturally those who have had the full benefit of rehabilitation measures, and who subsequently get into serious difficulties, would be disposed of in a fashion appropriate to their actual misdeeds.

It seems unlikely that major changes in the drinking habits of the community at large, civilian or military, will occur in the near future. An approach to alcoholism in the military service based on the points enumerated above will have the advantage of encouraging early referral, recognition, and

disposition. It will also have the advantage of saving many valuable men for the military service, with a considerable economy for the government. Furthermore, the civilian community will benefit through better relations with the military, and fewer problems of ex-military alcoholics. Finally, there will be the gratifying knowledge that the military service has again been able to utilize, with profit, the latest advances of medical science, as well as the newest social method that has been evolved (A.A.) for meeting one of the oldest military problems.

SUMMARY AND CONCLUSIONS

The problem of alcoholism in the military service is briefly reviewed. An experimental program in rehabilitation is described, and the results in 50 cases discussed. These results indicate that the program has been of value. The experience of the workers in this program provides the basis for a new ap-

proach to alcoholism in the military service, one that stresses education for prevention and early recognition, encourages referral and self-referral for prompt evaluation and treatment of suitable cases, and provides for a more flexible, rapid, and effective means of disposition within the framework of existing regulations.

BIBLIOGRAPHY

1. Diethelm, O. *Bull. N. Y. Acad. Med.*, 27: 232, Apr. 1951.
2. Lovell, H. W., and Tintera, J. W. *Geriatrics*, 6: 1, Jan. 1951.
3. Williams, R. J. *Nutrition and Alcoholism*. Norman: University of Oklahoma Press, 1951.
4. Jacobsen, E., and Martensen-Larsen, O. *J.A.M.A.*, 139: 918, Apr. 1949.
5. Tiebout, H. M. *Quart. J. Stud. Alcohol.*, 12: 52, Mar. 1951.
6. Talbott, H. E. *Air Force Information Letters*, Sept. 1954 and Jan. 1955.
7. Brown, C. T., and Knoblock, E. C. *U. S. Armed Forces Med. J.*, 2: 191, Feb. 1951.

PORPHYRIA—A DECEPTIVE SYNDROME¹

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Psychiatrists are often called upon to distinguish between the "organic" and "psychogenic" factors in a case—to decide whether a patient is comatose or catatonic; senile or schizophrenic. This is usually not too difficult, since most "organic brain syndromes" show characteristic confusion, disorientation, memory troubles, and so forth. However, some drugs, toxic conditions, and brain tumors(1) can produce deceptive states, some of which are even practically identical with schizophrenia(2).

Perhaps the most deceptive syndrome is acute intermittent porphyria. This is a familial metabolic disorder of the pyrroles, resulting in the production of abnormal types of porphyrins, which appear in the urine. The accompanying symptoms of abdominal pain, muscle weakness, and psychic changes are extremely variable and may appear, at first glance, to have no "organic" basis. The emotional symptoms, which begin with irritability and tension, often progress to a schizophrenic-like psychosis, and, as Wäldenstrom (3) says, it is easy to see why one might feel the patient's problems were entirely mental. This becomes all the more true when the patient arrives with reports from specialists in other fields who have found nothing after repeated examinations and laboratory tests. The "index of suspicion" for porphyria is low and the temptation to make a "diagnosis by exclusion" may be too great.

REVIEW OF THE DISEASE

Porphyrins are pigments, forming part of the respiratory enzyme system. They exist in both free and combined states in the human body; hemoglobin, cytochrome, and catalase, for example, are important porphyrin compounds, and free porphyrins are involved in hemoglobin formation(4). There is some confusion over the terms "porphyria" and "porphyrinuria." The latter describes a symptom, that of porphyrins appearing in the

urine. This may be the result of various conditions. "Porphyria," on the other hand, is a disease entity, with the formation of abnormal porphyrins, one symptom of which is porphyrinuria. This constitutionally-determined defect in metabolism was first clearly described by Günther(5) and Wäldenstrom (6). In recent years Watson and his associates(4) have concentrated on this disease and have devised the simple "Watson Test" which aids greatly in its diagnosis.

Various authors have subdivided porphyria in different ways(5, 6). Watson(4) describes 3 types—the congenital, the acute intermittent, and the mixed. The last two types he groups under "porphyria hepatica" and the first he terms "porphyria erythropoietica." Since the first type is seen only in childhood, and the last has mostly dermatologic symptoms, the acute intermittent type is the one of most interest to psychiatrists.

This disease is seen primarily in females, who are afflicted about 4 times as often as males. However, Markovitz(7), in a recent review of 69 cases, noted a proportion that was more nearly even—3:2. It usually occurs between the ages of 20 and 35. It is a relatively rare disease; in the last 20 years, only 25 cases have been diagnosed at University Hospital in Ann Arbor(8), which has about a 1,000 beds.

Clinically, the patient is usually first troubled with abdominal pain, then with psychic changes, and last with neurological symptoms, the earlier manifestations continuing as the later ones develop. However, this sequence may be altered or even reversed. Throughout the course of the disease there are often sudden and rather complete periods of remission of varying lengths. If the patient is given large amounts of barbiturates at these times, there is considerable evidence that this may precipitate a new attack(6, 14).

Most porphyric patients first notice colic-like abdominal pain, accompanied by nausea, vomiting, and severe constipation. A surgeon is then usually consulted. Since the absence of diarrhea tends to rule out a gastrointestinal infection, appendicitis is often con-

¹ Read at the 111th annual meeting of the American Psychiatric Association, Atlantic City, N. J., May 9-13, 1955.

sidered as a diagnosis—although there is usually no fever, leukocytosis, nor abdominal rigidity—and a laparotomy is undertaken (9). The patient is often worse following the operation, where no pathology is found; she shows marked signs of anxiety and irritability, and these symptoms, together with the extreme variability of her pain, lead the doctor to wonder if she is not suffering from emotional difficulties. He often feels this diagnosis is confirmed when, as frequently happens, the patient's complaints and irritability then give way to a grossly psychotic state. In this, the patient shows some "organic" signs, with confusion and disorientation, but these may be hidden by other symptoms suggesting schizophrenia. The patient is inappropriate, noisy, and argumentative. She complains bitterly of her abdominal pain. She may have auditory hallucinations in addition to the visual ones often experienced by "organic" patients (for example, that of seeing insects crawling on the bed, or the traditional "pink elephants" of the alcoholic). Thinking these patients to be schizophrenic, psychiatrists have subjected them to suggestion, psychotherapy, EST, and commitment (3, 7, 10). The neurologic symptoms then appear. These may be somewhat variable, but usually consist of the signs of a peripheral neuritis. A gradually-increasing paresis begins in the arms and legs. This is frequently mistaken for some nonspecific "toxic" paralysis, poliomyelitis, or the Guillain-Barré syndrome. Ankle and knee jerks disappear, usually in that order; indeed, it is possible to see ankle clonus when the patellar reflex is absent. Convulsions may occur. Minor sensory changes are seen infrequently; bulbar signs may be present in the more severe cases. A mild hypertension is often noted. Throughout the course of the disease the patient loses much weight and by this time may become quite cachectic.

All routine laboratory examinations may be entirely normal. The most likely abnormality to be seen is in the color of the urine. Although the voided urine during an acute attack may have a normal yellow color, it usually has some reddish tinge, varying from a pale pink to a deep red depending upon the amount of porphyrins excreted. In any event, the Watson test for porphobilino-

gen is almost always positive in this type of porphyria, when performed on a fresh sample of urine during an acute attack.

Many different types of treatment have been tried. Any evaluation of these attempts is very difficult, however, since untreated patients usually show marked ups and downs in the course of their disease. Some neurologists feel that the administration of calcium gluconate is distinctly beneficial, in view of a long-held idea that it "binds" the porphyrins and reduces their blood level. ACTH has been tried without notable success. Massive doses of various vitamins have been ineffectual. In summary, it would appear that no treatment can be proven to have been helpful.

It is easy to see why the diagnosis is usually missed. It is a rather rare disease, only vaguely remembered from some lecture years ago in medical school. Indeed, it may not have been mentioned there at all, since many of the textbooks fail to include any description of it whatsoever. The patient is usually brought to the psychiatrist in a grossly psychotic state, with a history that she has been complaining bitterly of abdominal pain, which has been very variable and for which no reason could be found when she underwent a laparotomy. She states she is unable to walk, but several authors have specifically mentioned that these patients' paralysis appears to be in considerable degree under volitional control and often improves remarkably with firmness and suggestion. This feature was noted in our two cases presented here. One wonders if this would be any more true for this disease than for any other "organic" paralysis. In any event, this may also lead the psychiatrist astray.

Oftentimes the patient has a strikingly neurotic history. Günther (11) felt that there was a distinct "nervous constitution" or background for this disease, and Roth (12) went so far as to state:

(Porphyria) occurs with special frequency, if not exclusively, amongst people with severe, neurotic personality disorders . . . It is probable that the psychoneurosis plays an important part in the pathogenesis of the disease, and in determining the time of onset of the acute attack.

He points out that Eldahl (13) noted an attack that occurred two days after an upsetting incident. However, since the disease

concentrates in certain families, and is apparently due to an irregularly-expressed dominant gene, it would appear that caution is in order in suggesting emotional conflict as an important etiological factor. Were these patients, as a group, really any more neurotic before becoming ill than a similar group of men and women in their 'teens and twenties? Even if they were, what would be the precise significance of this? In a disease that is characterized by many attacks, would we not expect some of the attacks to occur at times of emotional stress? Sweeping assertions about the importance of psychogenic factors, especially in diseases of metabolism, are open to the charge of belonging to the *post-hoc, ergo-propter-hoc* category.

A more cautious evaluation has been made by Visser and Aldrich (14). They correlated the urine coproporphyrin levels with the patient's emotional state over a period of months, and presented evidence that psychic factors apparently did play a role in the course of their patient's illness. Further studies along these lines would be most interesting.

In summary, if the "index of suspicion" for porphyria is low, the psychiatrist can easily be led astray by the complaints of variable pain and weakness, the psychotic state, and the negative laboratory findings. If he fails to note the presence of paresis, with diminished or absent reflexes, and does not do the specific Watson test, it is easy to see why he may think the patient schizophrenic. If, however, the triad of abdominal pain, paralysis, and psychic changes is being carried in even a rather remote corner of his mind, the diagnosis will present no difficulties.

CASE PRESENTATIONS

Mrs. T., a 22-year-old married woman, was admitted to the hospital because of her bitter complaints of abdominal pain, with threats of suicide. She also had seemed confused and hallucinated at times.

The family stated she had always been somewhat "nervous." Her husband felt she had tended to reject their one child. Five months before admission, she had "flu" and, complaining of abdominal pain, was admitted to a local hospital, where she seemed somewhat confused. She was discharged, the impression being that she was "neurotic." She went to another hospital, where her appendix and a "cyst of the ovary" were removed. Following the

operation, the patient was disoriented and thought she saw insects on the walls and windows. She improved and returned home where she felt better for some weeks. She became pregnant and again began complaining bitterly of pain in her back, legs, and abdomen, making wild threats of suicide. She was readmitted to the first hospital mentioned above, where she angrily complained that nothing was being done for her. She seemed very confused, sometimes did not recognize her family, and roamed about the hospital corridors. She was then admitted to the Neuropsychiatric Institute.

She was noted to be an emaciated, dehydrated woman who complained bitterly of pain and weakness, constantly demanding morphine. Her initial physical, neurological, and laboratory investigation revealed only that her reflexes were hypoaffective throughout, her ankle jerks were absent, and her blood pressure elevated to 138/100. Her reflexes subsequently became normal or even hyperactive, and her blood pressure returned to normal limits. Routine urinalyses repeatedly revealed no abnormalities. No reddish tinge was ever noted in her urine, but then we were not looking for it and may have missed it. She was noisy, demanding, and irritable, complaining of a wide variety of symptoms in addition to the abdominal pain. She usually was well oriented but occasionally appeared confused and her behavior inappropriate. She displayed visual hallucinations, on one occasion saying she saw a patient sitting on the windowsill of a nearby building. Her diagnosis from psychological tests was "conversion hysteria with phobias and depression in an immature, narcissistic young woman." Her clinical picture did not seem explained on merely psychological grounds; we suspected some types of toxemia, but normal urinalyses and other tests seemed to rule this out. Consultants in internal medicine and gynecology could suggest no "organic" basis for her complaints, which tended to lead us further astray. We finally concluded, quite erroneously, that her clinical picture was explained by a profound personality disorder, with some evidences of schizophrenia. We found that her complaints lessened when she was treated with firmness, and she gradually improved until she was able to walk and felt little pain. She returned home but subsequently became worse and was committed from there to a state hospital, where prominent neurological signs were noted by a consulting neurologist and the diagnosis of porphyria was made. In subsequent years she has done poorly, being in the state hospital most of the time.

Less than a year later, Mrs. L., a 24-year-old housewife, was seen in our out-patient department for evaluation. She was referred by a psychiatrist at a hospital nearby, who felt she was schizophrenic. The social service history revealed that she came from a difficult family background, with a hostile, domineering mother and a passive father. She had had asthma since the age of 2. Her mother was extremely possessive and clinging, not allowing her to play with other children and, later, frowning on all dates. When she went out with her husband-to-be, the mother refused to even meet him until the

day before the marriage. The patient got along rather poorly with her husband. A year before she was seen here she became pregnant and developed some low back pain. This was worse after delivery and, 3 months before coming here, she was advised to undergo total hysterectomy. She consulted another physician in Canada who also advised operation. He insisted on using a spinal anesthetic, forcing this on the protesting patient, who had always heard that this could cause paralysis. The day after the operation, wherein he removed the appendix and "adhesions" from the ovaries, the patient was unable to walk. She was seen by several doctors, including a psychiatrist, who felt that her problems were psychogenic. She was then troubled with urinary incontinence, which made her husband so "disgusted" with her, as he put it, that he left to live with his mother. A month and a half before coming here, she was admitted to a well-staffed psychiatric hospital in a nearby city, where she showed marked weakness and emaciation. She revealed a flat affect and had auditory and visual hallucinations. Laboratory studies, including routine urinalysis, were reportedly negative. She was felt to be a hebephrenic schizophrenic. She stayed there only a week and then, for financial reasons, came here. She was brought in on a stretcher, an emaciated woman complaining of marked paresis. She spoke first of various emotional problems but the presenting triad of pain, paralysis, and psychic changes, together with her mother's report of her urine being dark on occasion, led to our doing a Watson test which proved to be strongly positive. She was transferred to the neurology service, where she improved in ensuing weeks and was soon discharged home. She has done very well since, working at an 8-hour-a-day job, with only a minimal weakness of her legs remaining.

SUMMARY AND CONCLUSIONS

Most "organic brain syndromes" are not difficult to diagnose. However, some "organic" states resemble schizophrenia, and this is particularly true of the acute intermittent type of porphyria. Here, the variable pain and paralysis and the prominent psychic changes can easily lead to errors in diagnosis—as recounted in the cases presented—unless this classical triad is kept in mind as being characteristic of porphyria.

Early diagnosis would prevent unnecessary surgery and psychotherapy, the administration of drugs which can precipitate an attack, and even commitment as a schizophrenic. It is likely that there are undiagnosed porphyrics in the present mental hospital population of this country; we should therefore routinely do a Watson test on any patient—especially the young female—who is troubled with unusual abdominal pain and

any sort of psychic disorder, with or without any concomitant neurological symptoms being present.

Little mention has been made of this disease in the past, because it has been thought to be very rare. However, an average of more than one case a year is seen at our 1,000-bed hospital, and it has often been shown in the past that when attention is focused upon supposedly "rare" diseases they are found to be much more common than previously supposed.

BIBLIOGRAPHY

1. Waggoner, R. W., and Bagchi, B. K. *Am. J. Psychiat.*, 110: 904, June 1954.
2. Clark, L. D., Bauer, W., and Cobb, S. *New Eng. J. Med.*, 246: 205, Feb. 1952.
3. Wälénstrom, J. *Acta psychiat. et neurol.*, 14: 375, 1939.
4. Watson, C. J. Pp. 1079-1103. in Duncan, G. G. *Diseases of Metabolism*, 3rd Ed. Philadelphia: Saunders, 1952.
5. Günther, H. *Deutsch. Arch. f. Klin. med.*, 105: 89, 1911.
6. Wälénstrom, J. *Acta med. Scandinav. Suppl.*, 82: 1, 1937.
7. Markovitz, M. *Ann. Int. Med.*, 41: 1170, Dec. 1954.
8. Seltzer, H. S. Personal communication.
9. Calvy, G. L. *Surg., Gynec. and Obst.*, 90: 716, 1950.
10. Hirsch, S., and Dunsworth, F. A. *Am. J. Psychiat.*, 111: 703, Mar. 1955.
11. Günther, H. *Hamatoporphyrie in Schittenhelm's Die Krankheiten des Blutes u. der blutbildenden Organe*. Berlin: Springer, 1925.
12. Roth, N. *Psychosom. Med.*, 7: 291, 1945.
13. Eldahl, A. *Acta med. Scandinav.*, 97: 415, 1938.
14. Visher, J. S., and Aldrich, C. K. *Psychosom. Med.*, 16: 163, 1954.

DISCUSSION

HERRERT WEINER, CAPT. M. C., U. S. A. R. (Washington, D. C.).—Dr. Cross has rendered signal service by pointing out some of the pitfalls in the diagnosis of a fascinating disease entity the psychiatric elucidation of which has fallen behind the gradual biochemical and neurological unraveling of its mysteries.

Approximately 350 cases of porphyria are now extant in the literature, each highlighting the extremely variable symptomatology of the disorder. Generally, if the well-known triad of abdominal pain, neuropathy, and psychotic reaction be present, the diagnosis is not impossible. But if only one of these symptoms—none of which is specific—obtains, then only the chance finding of the urinary abnormality may lead to a correct diagnosis. Even here, there are pitfalls; for the presence of abnormal

porphyrins in the urine during the acute attack may be extremely evanescent or entirely lacking.

One of the many enigmas of this disease is the exact delineation of pathogenesis and the nature of the psychiatric picture. Both in the intermittent form and the mixed, hepatic form, the familial, metabolic defect is present from birth, yet attacks may occur unpredictably except in the toxic variant; and many different precipitating causes—physical trauma, anxiety, infection, etc.—have been implicated. Nor is the question why symptoms occur independently of each other by any means settled. It can be said, however, that it is not the presence of uroporphyrin or coproporphyrin isomers that appears responsible for the symptoms, as these substances appear in other disease entities not thus characterized. However, it may be that porphobilinogen is the agent causing the neurologic and psychiatric symptoms; in the mixed form of the disease, the presence of this substance is obligatory for their production. Nor is the question at all settled as to how these metabolites produce their neural effects. Is it directly, as evidenced by their presence in autonomic ganglia and cerebral tissue in porphyria (although they may normally occur there) or indirectly by hypoxia, ischemia, or vasoconstriction? All of these mechanisms have been implicated, and might explain the neuropathological lesions in peripheral nerve, nerve cells, and white matter.

Yet not even these fully afford an explanation of the extreme variability and transience of the neurological symptoms; or the fact that in some

patients they have been proven to be either in part or wholly hysterical in nature; or that only 40% of all patients with porphyria develop these almost uniformly, fatal neurological defects.

As to the psychotic reaction, symptomatology ranges the gamut of major mood, thought content and behavioral changes. Again not all patients develop a psychotic reaction, but apparently only those who have a psychological predisposition, in the form of neurotic or personality difficulties. Secondly, I suggest that as in other metabolic diseases, regardless of cause, the fundamental difficulty is a disturbance of consciousness which may even deepen to stupor or coma in porphyria. Little attention has been given to this aspect of the illness as the more dramatic behavioral manifestations are misleading. Some confirmation, however, comes from EEG studies in the French literature; diffuse slow wave activity having been found in porphyria where the level of attention was impaired. This finding is entirely in keeping with the diagnosis of delirium as defined by Romano's and Engel's now classic studies.

However, the psychosis may in addition have other roots—some authors have indicated that its onset coincided with the threat of surgery for the abdominal symptoms, and was rapidly resolved by ECT.

Whatever the final elucidation of these unanswered questions, I would like to thank Dr. Cross for again bringing this syndrome to our attention: before we can go further in clarifying it, we must be conscious of it!

DEFENSES: THEIR NATURE AND FUNCTION¹

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In psychiatry we hear a lot of talk about defenses. One gets the impression that they are very special and esoteric mechanisms or psychic structures, and that before Freud little was known about them and even less understood. There is some truth in this, but it violates common sense and fails to do justice to the extent and variety of man's defenses. While we shall not here try to take the problem into the laboratory, we should at least like to get it off the couch, walk around it, and look at it from all sides. By this maneuver we may stumble on a fresh fact or get a new idea. In any event, we shall get some much-needed exercise.

Whitehorn³ stressed the importance of understanding and misunderstanding in psychotherapy. Similar problems of communication are often raised, when doctors come together at scientific meetings and read papers to one another. Authors may be asked, with varying degrees of puzzlement and hostility, "What was your purpose in writing this paper?" So let us hasten to explain that our chief purpose is to analyze and try to clarify some uses of the term "defense" and to suggest some ways of classifying various kinds of defenses. This paper does not purport to be a theory of defenses, with an adequate empirical account of their origins, development, and consequences in behavior, normal or abnormal. Such a theory, could it be presented in 20 minutes, would certainly be a far more important contribution to knowledge in this obscure but vitally important area of psychiatry. But knowledge presupposes understanding, and the more modest task of looking at our verbal tools and of examining the concepts we employ is logically a necessary condition of formulating, let alone factually testing, such a theory of defenses. While affirming or denying the truth

of propositions seems to be, for most people, a far more gratifying activity than is analyzing the possible meanings or relevance of these propositions, this latter activity is no less essential for being generally unpopular. As some cynic has said, "A meaningless noise divides us least," but—as the great Spinoza taught—insofar as we are truly rational, we shall in fact agree: precisely because, in becoming rational, we shall have clarified our verbal muddles and transcended our passionate biases and attained clear and adequate conceptions of the order of nature.

We shall start by considering a few examples of the ways in which we use the word "defense." If, when threatened by an armed hold-up man, we shoot and kill him, we plead self-defense. If we have the necessary horse-sense, we come in out of the rain; and thus we defend ourselves against discomfort or injury. If a normal child, attracted by the color, reaches out and touches a red-hot stove, he quickly withdraws his hand and probably cries out in pain; or if a bright light is thrown into his pupil, the pupil instantly contracts. These and many other so-called protective reflexes have an adaptive function in avoiding pain and injury and so "defend" the organism against a number of recurrent dangers. At the biochemical and physiological level there are, of course, a large number of homeostatic mechanisms, which (if functioning healthily) maintain within tolerable, if not always optimal, limits a wide range of variables, such as body temperature, blood pH and pressure, glucose concentration, or electrolyte balance, this whole set of interrelated mechanisms having the "purpose," as the teleologists say, of maintaining the constancy of the internal environment, which in turn is, in Claude Bernard's famous phrase, a necessary condition of the free life. Finally, to move back into the psychological area, if we repress sexual or aggressive impulses, because of the anxiety their conscious acceptance or expression would involve, the word "repress" in this context would (in terms of analytic theory)

¹ Read at the 111th annual meeting of The American Psychiatric Association, Atlantic City, N. J., May 9-13, 1955.

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³ *Am. J. Psychiat.*, 112: 328, Nov. 1955.

imply the operation of an ego-defense mechanism.

These examples may serve to illustrate the wide range of reactions—from the molecular level up through the cellular, the organ, the reflex, to the more complex sign-mediated levels of behavior—that function so as to prevent suffering and to maintain the vital integrity of the organism. As everyone knows, if certain essential substances, such as air, water, and food are not adequately supplied from the environment these biological functions begin to break down, and various symptoms result—dysfunction leading in time to discomfort, and, in the more extreme cases, to disease and even death. There are, of course, too, all kinds of traumatic factors and pathogenic agents that may result in accidental injury or in organic disease. Against all these dire contingencies the organism has “defenses,” many of them, so to speak, “built in” by a nature at least beneficent enough to permit it to survive, even if not exempt from trouble or suffering.

As the above examples indicate, the word “defense” is used in various ways in different contexts—like every other important word in our “natural” language. But in any given context, we must be careful that this potential ambiguity does not mislead us. Thus we have seen that a large number of biochemical and physiological mechanisms are so interrelated and coordinated that they undoubtedly have high adaptive value, and, in numerous instances, are necessary for survival. Given the requisite state of health, these homeostatic mechanisms work “automatically” independent of conscious thought and direction. But are these homeostatic mechanisms “purposive” in function? Certainly not, if a necessary part of what we mean by “purposive” is that these intraorganic functions are carried out with conscious ends in view, or that the adaptive value of a certain reaction is anticipated, and is hence performed for the sake of realizing this value. The human organism as a whole does, of course, frequently behave in this way, and its capacity for the conscious pursuit of such good “ends” is one reason Aristotle called animals like us “rational.” But our individual cells, or organs, or reflex arcs, do not in this sense behave purposively. On the other hand, if

we mean by “purposive” that a process is a necessary condition for survival, or—less stringently—that it contributes to organismic efficiency or helps to maintain the organism in a state of health and comfort, then hundreds or thousands of reactions are “purposive,” depending upon the scale of our analysis.

Similar distinctions need to be made, if we ask whether these homeostatic processes are “defenses.” They are, if we mean that when working efficiently they help to prevent maladjustment to the environment, or internal breakdowns of various kinds; or that these processes contribute generally to the maintenance of a state of comfort and health. Surely, to an enormous extent, the avoidance of an endless variety of pains and miseries and inefficiencies and failures or, on the other hand, the enjoyment of feeling well and happy, depends upon the unconscious operation of such lower-level “defenses,” which, because they do not have to be learned and do not require conscious regulation, free our higher centers for problem solving, theory construction, and artistic creation which distinguish us as rational human beings.

But, if I am in an overheated room, I may, before I automatically start sweating, open the windows, turn on the electric fan, or reset the thermostat. If I do any of these things, I am, of course, behaving purposively. Such purposive acts are means-end operations, and while they may become more or less habitual and actually require little conscious direction, they serve, generally speaking, to avoid various forms of pain or discomfort, ill health or failure, or to attain numerous positive values. A wide range of food-getting, mate-seeking, work-performing activities fall into this category of purposive actions. By them our needs and desires are largely satisfied. While these satisfactions, and the behavior leading to them, depend partly on prior learning, as well as on biological maturation and the current internal state of the organism, they also depend partly on the immediate external environment. For without this environment to “support” the behavior and without appropriate modifications of it produced by the organism's interactions with it, these means-end operations

could not be performed and hence could not be successful, *i.e.*, lead to impulse satisfaction, to need gratification, or, more generally, to tension reduction.

Such means-end or goal-directed behavior is by definition purposive, but is it defensive? Certainly some of it is; the only arguable question is whether it *all* is, or how much of it is. Whenever we try to change our environment in order to bring about some better state of biological adjustment, or to forward our self-development and self-realization, or reduce pains and increase pleasures, it is quite possible to say that we are expressing or building up our so-called "allopathic" defenses. This usage is more appropriate when the behavior is viewed as consciously avoiding some external danger or as circumventing a future one. But with a little ingenuity this kind of defensive motive—if not in the sense of a consciously intended result, then as an accepted and preferred one, *when* it occurs—can reasonably be imputed to most, if not all, means-end behavior.

So far we have roughly distinguished two kinds of defenses. The first, homeostatic mechanisms, which operate unconsciously, are in one sense nonpurposive, and are evidently the product of evolution, heredity, and maturation, with individual learning, in the process of ontogenesis, playing a relatively minor role, even though a number of these processes may be set off by conditioned stimuli and be, to some extent, modified by learning. These mechanisms constitute necessary conditions of survival, and their healthy operation in turn conditions our efficiency and happiness. These homeostatic mechanisms we call *intraorganic* defenses.

The second kind is the *overt-behavioral* defenses. These adaptive behaviors may be and often are consciously directed and probably all of them, in varying degrees, are cognitively mediated. As such, they presuppose appropriate kinds of docility, and their spatio-temporal patterning is largely learned. Hence, understanding their form, their meaning, and their adaptive role requires a fairly intimate knowledge of the bio-social history of the individual, and therefore, of his culture. When these behaviors are negatively directed their defensive function is plain enough. It is carried out largely

by physically altering the environment or one's spatio-temporal relations to it, as well as by employing a wide range of sign-using maneuvers by which other people's behavior is at least partly controlled. Such defenses, if intelligently adaptive and not neurotically hypertrophied or otherwise inappropriate, constitute means-end operations that are also necessary for survival, particularly in highly complex and rapidly changing environments. Their rational use is what is generally referred to as "dealing realistically" with our problems.

A third kind of defense we call, with some operational contextual misgivings, but following a well-established verbal convention, *intra-psychic* defenses. These are usually labelled "ego-defense mechanisms."

The qualification "ego-defense" is misleading, unless it is recognized that both intraorganic and overt-behavioral defenses themselves variously condition, although by somewhat different causal routes, the ego and its functions, defensive and otherwise. They also, directly or indirectly, tend to reduce anxiety and, when healthy, to "strengthen" the ego, thus decreasing its vulnerability. Hence, ultimately, by short or long causal chains, with or without learned connections, *all* our defenses protect the ego from anxiety and suffering by helping to maintain the organism in a state of health and efficiency, by keeping it reasonably well-adjusted to its physical and social environment, or, finally, by altering, through what are usually deviations from well-justified norms of interpretation, the meanings and values of experience.

Whether ego-defense mechanisms are best conceived on the model of reflexes or habits (to mention only 2 possibilities) is a controversial issue. In any event, they are involuntary and to a considerable extent uncontrollable, and, when activated, they work quickly, automatically, and unconsciously. Some of them, at least, are to be found in many, if not all, people, and often appear to be "unlearned." This latter hypothesis would imply, for example, that while we learn *what* to repress, or even *that* repressing it, because of the immediate tension reduction, is the easiest way out of conflict, we do not need to learn *how* to repress it. Or if, as some environ-

mentalists assert, both the defense mechanism itself and its various behavioral expressions are "learned" (letting lie the sleeping ambiguities of this term), no one will dispute the fact that defensive tendencies, once ingrained and hardened into need-reinforced habits, are very difficult to unlearn, their rigidity and unmodifiability being notorious. But while defensive tendencies are thus "natural," and presumably species-wide, different personality types, *e.g.*, the hysterical or the obsessional, may characteristically use or "favor" different mechanisms. Also, the particular culture-pattern (how repressive it is, for example, or the prevailing mores about responsibility and guilt) will surely influence what ego defenses are primarily used as well as the pattern of their overt expression. Finally, the ego-defense mechanisms are "purposive" in the somewhat Pickwickian sense that Freud made popular; that is, they operate preconsciously to block the emergence of interpretations that would otherwise mediate the arousal of guilt feelings and other forms of conscious anxiety. While the resulting negative good is consciously enjoyed, it has not been sought as an end-in-view, nor has the defense mechanism that brings it about been consciously employed as a means for this purpose. Hence the as-if character of the purposiveness involved, although, in the sense intended, this does not impugn its reality nor destroy the clinical significance of the phenomenon.

In addition to their common function in preventing or reducing conscious anxiety, do ego-defense mechanisms exercise this function through the operation of a common mechanism? Let us look at a few examples. The mechanism of repression alters the process of sign-functioning by breaking associative connections—presumably in the preconscious—that are necessary for the emergence into consciousness of some impression or idea, and thus prevents the awareness of some ego-alien meaning. In some cases, as in hysterical blindness or deafness, the defensive process even affects the sensory core of experience, so that visual or auditory impressions are kept out of awareness; in the case of hysterical paresthesias, abnormal sensations enter instead; and in the case of displacement, a sensation, in some ways similar,

but with a different somatic locus, is perceived, as a defensive substitute for the expected (in view of the stimulus) or "normal" sensation. In the case of projection, the threat, implicit in certain self-references, is sufficiently great to disorganize more seriously the whole motor-cognitive apparatus, so that the anxiety-charged inner process, *e.g.*, the paranoid's homosexual tendencies, is referred to some other person. This kind of ego defense is, of course, often combined with denial, as if the patient wishes to make doubly sure that he will not be thought guilty, not only by denying that the alien impulse is in himself but also by affirming that it is in someone else. There is cunning logic in this (and paranoids are nothing if not logical, in a limited sort of way), for a negative proposition, even if not universal, is harder to prove than an affirmative one. This, plus the personal locus of moral responsibility, helps to explain the ego-appeal of projection as a defense against unacceptable or seriously upsetting impulses.

All these defense mechanisms operate so that certain sensations or ideas are either blotted out completely, producing blind spots and memory gaps, or—what amounts to the same thing—so that certain apperceptive "masses," or associatively linked clusters of meaning, are not cognitively grasped. In Freudian language, ego-anticathexes are said to maintain a repressive "barrier," which keeps out of awareness the disturbing representation of the anxiety-inducing id impulse, or, as Mowrer has emphasized, the "repression" may be directed against the rightful authority of super-ego demands. In either case, the defense mechanism basically operates by the ego's unconsciously altering—under threats to its own integrity and to its continued enjoyment of pleasure and a "good conscience"—its own processes of perceiving and sign-functioning, *i.e.*, its processes of interpreting, which include such cognitive functions as inferring, recalling, and anticipating. By these defensive alterations certain anticipatory references, which imply ego-disturbing consequences—for example, "I am inferior, I am guilty, I am hopeless"—are kept out of awareness, or are only dimly and partially understood, with the relatively good, if only temporary, intrapsychic result that

the potential anxiety is not actualized or consciously suffered, or that its intensity is at least mitigated. But for this temporary negative "good," the threatened ego must pay what is in the long run too high a price, namely, continued ignorance of the most vital facts about its own motivations and values, with the inevitable result that the fool's paradise it lives in recurrently turns into a neurotic's hell.

If space permitted and the sign-processes involved could be logically dissected at greater length, it would be possible to explain better some of the more minute features of different defense mechanisms. For those who know the semeiotic jargon, the pragmatical dimension of meaning, in the case of these sign-functions, is the primary locus of the trouble. If a definition is called for, the term "pragmatical" is a second-order predicate that (in Morris' theory of signs) designates relations between the sign-vehicles used or interpreted and the cognitive reactions, the intents or interpretants, of the user or interpreter. This pragmatical relation is a necessary factor in all cases of sign-functioning, even the most abstract, as in "doing" and understanding so-called pure mathematics. But in psychiatry these pragmatical relations are not only presupposed by the psychiatrist's own operations with signs but also are of central importance for, being naturally integral to, the clinical subject-matter on which he operates, i.e., tries to understand, predict, and control. This obvious but sometimes neglected fact becomes very apparent when we reflect upon such basic problems as how signals arouse anxiety, or how anxiety distorts perception, or how it produces gaps in memory, or how it helps to maintain, in stubborn imperviousness to empirical disproof, the delusions of the paranoid patient.

It would be naïvely overoptimistic to claim that in the present state of our knowledge of either semeiotic theory or clinical psychiatry that many urgent clinical problems can be solved by analyzing, in semeiotic terms, the facts of psychopathology. But that a good many confusions could thus be cleared up, I have no doubt, and clear thinking is surely important for the practice as well as the theory of psychiatry. Such logical clarifica-

tion of the underlying assumptions and implications of our psychiatric language is a first step that must be taken before we can formulate empirical questions in psychodynamics and psychopathology that even in principle are capable of being factually tested. But even this "first step" would be intellectually an arduous undertaking.

However, taking a brief look at the comparison between intraorganic, overt-behavioral, and intrapsychic defenses, it is philosophically interesting that the first of these defenses, the intraorganic, require for their operation mere causal relations; the overt-behavioral require means-end relations, which presuppose causal relations but "add" certain distinctive features; whereas, the intrapsychic require still further distinctive features of the sort implied by referring to them as self-reflexive, sign-mediated, and sign-altering processes. Furthermore, the first two kinds of defenses are directly "concerned" (though in different ways) with altering the existential conditions of experience, whereas, ego-defense mechanisms, which (by definition) operate in the intrapsychic sphere of meanings, are primarily and directly concerned with altering the implications of experience, and by altering these implications, which in turn mediate the affective qualities and hedonic attributes of experience, with controlling the *values* of experience.

These ego-defense mechanisms are called "self-reflexive" because, whether set off directly by anxiety itself, which functions as a signal to the ego, or indirectly by an originally neutral sign that has come to mean that anxiety is forthcoming, the ego in either case is threatened by the implications of some present experience, and the defense mechanism activated "works" by blocking or variously distorting these implications, which means, in effect, substituting another less threatening sign-process. Unfortunately, such self-reflexive mental processes, involving as they do the interaction of, and conflicts between, highly cathected sign-functions, are peculiarly liable, particularly in psychoneurotic patients, to be *not* self-corrective but to exhibit the properties of a positive feed-back system in which the errors involved are neurotically compounded. This kind of circu-

larity, in which an already erroneous map of reality generates in the threatened ego the projection of a map still more erroneous, is vicious indeed. One consequence is that the patient comes to live in what is more or less a private world, shot through with illusions about both other people and himself, and is dominated by ideas that, while they pragmatically "express" his conflicts, fail semantically to "designate" the relevant features of reality. Such rumination without correct representation is tyranny—or soon leads to it. This neurotic tyranny, like all tyranny, is based on fear, maintained by error, and excused by weakness. It is "cured," as Plato taught, when "justice" prevails within the soul, or as Freud said, in language less beautiful and equally vague, when a "proper" redistribution of libido occurs as a result of shifts in unconscious cathexes.

We have distinguished between 3 kinds of defenses, but we certainly have not meant to imply, what would indeed be an obvious *non sequitur*, that the concrete, multidimensional

processes referred to are themselves separate, let alone mutually exclusive. A patient, for example, may unconsciously repress, by an intrapsychic mechanism, the ego-alien meaning of a situation, while at the same time he phobically avoids it in his overt behavior, during which period his intraorganic defenses maintain, within at least tolerable limits, the acid-base equilibrium of his blood that, due to hysterical overbreathing, is in danger of being seriously upset. These defensive processes not only go on concurrently, but also interact with and modify each other—a set of inferences plainly implied by the widely accepted principles of psychosomatic medicine and (what is more important) daily confirmed in the clinic and laboratory. In fact, these various defenses are, in their operation, so far from being separate, that they are organically interrelated by all the complex forces of heredity, maturation, and learning—forces indeed so complex and so important for our health and survival that their study constitutes an indispensable part of the "proper study of mankind."

PRELIMINARY CLINICAL REPORTS

CHLORPROMAZINE IN THE TREATMENT OF MENTAL ILLNESS. III: THE PROBLEM OF DEPRESSION

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Depression was the most prominent symptom in 47 of 1,523 patients treated with chlorpromazine. This report deals with a review of the available data in 45 patients. The group included 36 female and 9 male patients ranging in age from 35 to 74 years (39 were between 50 and 69 years). Their diagnoses were involutional melancholia (31), manic depressive, depressed (12), manic depressive, mixed (1), and dementia praecox, paranoid (1). The depression in 39 was accompanied by agitation, while 6 were apathetic, adynamic, withdrawn, and uncommunicative. Tension, anxiety, uneasiness, restlessness, hypochondriacal, self-condemnatory and suicidal ideas, paranoid or somatic delusions, hallucinations, insomnia, or anorexia were the most frequent accompanying symptoms.

The duration of hospitalization before treatment varied from one day to 13 years, with 14 patients hospitalized for more than 1 year. Chlorpromazine hydrochloride was the sole form of treatment in 39 patients; 2 were given electroconvulsive therapy in addition, and 4 received diethazine concurrently. The dose of chlorpromazine ranged from 100 to 600 mg. daily; 16 patients received 100-150 mg., and 18 received 300 mg. daily. Twenty-four patients were treated up to 5 months, with the remainder for periods as long as 14 months.

Fifteen patients were discharged, 22 showed varying degrees of improvement, and 8 were unchanged. Of the 6 patients with

a retarded depression, one was discharged, 4 improved, and 1 unchanged.

The clinical results were definitely related to the duration of hospitalization before treatment. Chemotherapy was begun in 12 patients within 5 days of admission to the hospital. Of these, 8 were discharged, 3 improved, and 1 unchanged. Those discharged or improved had been hospitalized for the shortest periods. Neither the duration of treatment nor the dose of chlorpromazine influenced the end result.

Twelve of the 15 discharged patients required a daily dose of 100-150 mg. of chlorpromazine, while 150-600 mg. was used for those improved or unchanged. Diethazine enhanced the action of chlorpromazine in 3 of 4 patients. The action of this combination in treatment of depression is now under investigation. In the successfully treated cases, psychomotor agitation was markedly reduced with disappearance of anxiety and tension. Subsequently the depression lifted and the other symptoms were no longer present. In those who improved, the psychomotor symptoms decreased and management was facilitated. The clinical state remained unchanged when the drug was ineffective. The depression became more apparent in one patient as the agitation disappeared. The symptoms were in no case aggravated by chlorpromazine and there were no suicides.

Conclusion.—The chemotherapeutic management of depression with chlorpromazine is described. The drug is most effective when the depressive state is accompanied by psychomotor agitation. Immediate treatment after hospitalization with adequate doses for sufficient periods is essential. Psychotherapy can be instituted when the blocking effect of anxiety is removed. Long-term maintenance with chlorpromazine may be necessary for patients with recurrent psychotic attacks of depression and agitation.

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³ The authors thank Mr. William E. Kirsch, research associate, Smith, Kline & French Laboratories, Philadelphia, Pa., for continued support and generous supplies of chlorpromazine and diethazine (Diparcol).

FOLLOW-UP STUDY ON PATIENTS TREATED WITH THORAZINE PRELIMINARY REPORT¹

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The 160 unselected patients under observation in this chlorpromazine follow-up study came to the Manhattan Aftercare Clinic on the advice of the directors of several New York state hospitals in the metropolitan area where they had been treated with Thorazine and were improved. They were asked to report to the clinic on the day following their release from the hospital.

There are 3 different groups of patients presently under control: *Group I.*—57 patients who while in hospital had been treated with Thorazine and after withdrawal of the drug had maintained their improvement and been discharged. *Group II.*—82 patients who during hospital residence had received Thorazine and who required to be kept on a maintenance dosage of the drug. *Group III.*—21 patients who had been released from a mental hospital 1-4 years ago, had adjusted well until recently, and were brought to the clinic when they began to show symptoms of relapse.

Patients in all 3 groups were seen regularly once a week. Home visits by a social worker were made occasionally.

The study seems to indicate that there are far less untoward side-effects of Thorazine even when taken for a prolonged period than might have been expected. But it appears imperative to see these patients regularly for control of dosage, in order not only to avoid unpleasant complications, but also to vary the dosage according to individual needs, taking into account the increased stress situations which have to be faced by these patients outside the hospital.

It seems that a single daily dose at bedtime (50-150 mg. Thorazine) can, in the

majority of cases, maintain the level of improvement without causing drowsiness or other side-effects which might interfere with work. This is important because of the 82 patients presently on maintenance dosage, 58 are working, 41 of them receiving a bedtime dosage only.

Patients who have had a long illness seem always to require a maintenance dosage, as they do show, sooner or later, return of psychotic symptoms when the drug is discontinued.

Another important reason for seeing these patients at regular, frequent intervals is the need to determine whether or not the drug is actually being taken. It sometimes happened that patients coming to the clinic were noticed to be tense and irritable, and investigation frequently revealed that the drug had not been taken for several days. Moreover, stress situations requiring change of dosage can be discovered only if these patients are seen frequently enough.

This study has also shown other factors which seem too important to be overlooked. The difficulties encountered by many of these patients after their release from hospital are manifold and are frequently so severe as eventually to exert unbearable stress resulting in return of psychotic symptoms necessitating return to hospital. Though these factors cannot be discussed here in detail, they should be kept in mind as they may cause failure in the attempts to readjust these patients. And when they become responsible for failure, Thorazine, a most effective and valuable weapon against mental illness, might be discredited as ineffective where so frequently social factors should be blamed for these patients' return to the hospital.

¹ Read at the Down-State Inter-Hospital Conference, New York Psychiatric Institute, April 2, 1956.

CLINICAL NOTES

USE OF MEPROBAMATE¹ IN THE TREATMENT OF PSYCHOTIC PATIENTS

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In 1954 Gorfinkle and Kline studied 25 chronic schizophrenic patients on meprobamate (2400 mg./day) for 9 months. An initial mild sedation rapidly disappeared and no further change was observed. Following abrupt withdrawal 6 patients had a single convulsion (as may occur with abrupt discontinuance of certain sedative medications).

Another 6 schizophrenics were tested on daily doses up to 4,000 mg.: 4 patients showed no change; 1 patient was initially sedated but tolerance developed within 5 days; in another sedation lasted while the drug was administered, but without changing the mental content.

In 15 psychotics with convulsive disorders who were inadequately controlled with luminal and/or dilantin meprobamate was added to the anticonvulsant being received. The only side-effect was that one patient developed nausea and vomiting on 1,600 mg. but was able to tolerate 1,200 mg. The drug was administered for 4 months and was withdrawn over a 9-day period. The irritable, hostile, and occasionally destructive and combative behavior was in no way affected by the addition of meprobamate, nor were there any changes in mental content. Four patients showed some decrease in grand mal seizures during the study compared with the previous 4 months, but there was no improvement in petit mal seizures, nor were the number of seizures in the other 11 patients influenced.

In view of the failure of meprobamate alone to produce significant effects on chronic psychotic patients, it was tried in combination with reserpine, chlorpromazine, and combined reserpine-chlorpromazine. Pa-

tients tested had failed to respond to reserpine or chlorpromazine, either alone or in combination. All had been continuously hospitalized a minimum of 4 years.

Five patients were treated with meprobamate (1,600 mg./day) alone for 3 months. No significant change was noted in behavior or mental content.

Six patients were given a combination of 3 mg. of reserpine daily and 400 mgs. of meprobamate q.i.d. At the end of 1 month, 3 of these showed improvement, but they relapsed despite continuation of therapy and at the end of 3 months none of the reserpine-meprobamate patients were improved.

Three patients were given a combination of 3 mg. of reserpine a day, 50 mg. of chlorpromazine b.i.d. and 400 mgs. of meprobamate q.i.d. Two showed initial improvement, but at the end of the 3-month period only one retained some slight improvement.

Seventeen patients were given a combination of 150 mgs. of chlorpromazine and 400 mgs. of meprobamate q.i.d. for 3 months. At one month, 12 of the 17 patients showed improvement and at 3 months, 6 were still slightly improved and 2 moderately improved in behavior and mental content. Although it might be argued that the benefit was due only to the chlorpromazine, this is unlikely since the patients had already received a full course of chlorpromazine without success.

In summary, clinical evidence is that chronic psychotic patients rarely show lasting sedation and do not show psychological improvement with meprobamate alone. Meprobamate in combination with chlorpromazine has produced some improvement in some patients previously resistant to drug therapy. Chlorpromazine-meprobamate combinations warrant further study.

¹ Appreciation is expressed to Dr. Frank Berger and Dr. Charles Hendley of Wallace Laboratories for the supply of meprobamate under the trade name of Miltown.

SERUM MAGNESIUM AND OTHER ELECTROLYTES IN INSULIN-INDUCED HYPOGLYCEMIA¹

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The role of magnesium in carbohydrate metabolism is poorly understood. There is some evidence that it is involved as a co-factor in the decarboxylation of pyruvic acid and in conversion of glucose-1-phosphate to glucose-6-phosphate(1). Martin and Wertman(2) found a striking fall in serum magnesium after insulin therapy of patients in diabetic acidosis. Some patients who receive insulin shock therapy develop prolonged coma. This effect cannot be accounted for by continued hypoglycemia or disturbances in commonly measured serum electrolyte levels. It was thought that a study of serum magnesium during insulin shock therapy might throw light on the problem.

Material and Methods.—Seventeen patients on insulin shock therapy were studied. Serum sodium, chloride, potassium, calcium, and magnesium were measured. Serum magnesium was determined by the method described by Simonsen, Westover, and Wertman(3).

Fasting determinations were made a few minutes before insulin administration. Regular insulin was then given subcutaneously. A second blood sample was obtained at the peak of the reaction, and a third sample was taken 5 or 6 hours after coma was terminated.

Results.—The serum magnesium was within normal limits in all patients in the pre-treatment phase and showed no significant variation throughout the period of observa-

tion (Table 1). This was also true of serum sodium and chloride. The slight increase in serum calcium at the time of coma was found to be statistically significant ($p < .05$), although it seems unreasonable to attribute any physiological significance to such a small change. As has been reported by others(4, 5), a significant decline of serum potassium occurred at the time of coma ($p = < .005$) with an incomplete return to baseline levels in the postcoma samples. The decline of serum potassium correlated with the concurrent decrease in blood glucose ($r = .78$, $p = < .01$).

Discussion.—This study was undertaken to further investigate the role of magnesium in carbohydrate metabolism and to seek a possible explanation for abnormal prolongation of insulin coma.

As to the first objective, the failure of serum magnesium to decline after insulin administration in this study appears to differ from the findings of Martin and Wertman. However, their experimental situation differed. Their patients were hyperglycemic when treatment with insulin was instituted and were returned only to normoglycemia by the therapy; therefore, these patients had adequate glucose available to be metabolized. The patients in our study became markedly hypoglycemic. It is possible, then, that the decline in serum magnesium will occur only when sufficient glucose continues to be available. Secondly, the diuresis occurring in their cases suggests that increased renal excretion of magnesium might be responsible.

The cause of protracted insulin coma un-

TABLE 1
ELECTROLYTE VALUES DURING INSULIN-INDUCED HYPOGLYCEMIA *

	Control	Hypoglycemia	Recovery
Magnesium (mEq/L)	1.70 ± .075	1.80 ± .075	1.80 ± .070
Calcium (mEq/L)	5.07 ± .317	5.18 ± .090	5.07 ± .033
Sodium (mEq/L)	138.4 ± 8.32	137.0 ± 12.1	137.7 ± 12.0
Potassium (mEq/L)	4.85 ± .874	4.19 ± .890	4.42 ± .747
Chloride (mEq/L)	100.9 ± 3.65	104.5 ± 3.20	101.2 ± 3.48
Glucose (mg/100 cc.)	82.5 ± 8.66	12.5 ± 8.49	53.4 ± 15.5

* All values are means and standard deviations.

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² With the technical assistance of Mackie Allgood.

responsive to glucose administration is still unresolved. That magnesium might be involved is suggested by the work of Hirschfelder and Haury (6) who found that hypermagnesemia may lead to coma and that hypomagnesemia may cause convulsions. In our series of cases, no opportunity to study protracted insulin coma appeared. It is noteworthy, however, that no acute serum magnesium changes occurred. A review of the literature revealed only one previous study of acute magnesium changes during insulin shock therapy (7). Four cases were studied and no alterations were reported.

Summary and Conclusions.—Serum electrolyte studies have been done on patients receiving insulin shock therapy. No signifi-

cant changes in serum magnesium were noted. The serum potassium fell; the other electrolytes remained unchanged.

BIBLIOGRAPHY

1. Corkill, A., and Ennor A. M. J. Australia, 1: 113, 1938.
2. Martin, H. E., and Wertman, M. J. Clin Invest, 26: 217, 1947.
3. Simonsen, D. G., Westover, L. M., and Wertman, M. J. Biol. Chem., 169: 39, 1947.
4. Thorley, A. S., and Kay, W. W. Proc. Royal Soc. Med., 44: 969, 1951.
5. Harris, M. M., et al. Arch. Neurol. & Psychiat., 40: 116, 1938.
6. Hirschfelder, A. D., and Haury, V. G. J.A.M.A., 102: 1138, 1934.
7. Gottfried, S. P., and Willner, H. H. Arch. Neurol. & Psychiat., 62: 809, 1949.

NEW PSYCHOPHYSIOLOGICAL CORRELATES IN WOMEN WITH PEPTIC ULCERS

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DURHAM, N. C.

In a recent study the authors demonstrated that gynecologic surgery, especially sterilizing procedures, was followed by a significant incidence of psychophysiological gastrointestinal reactions (1); and that all cases in the series with demonstrable peptic ulcers had been sterilized. This led to a survey of 200 proven peptic ulcer cases in women (2).

The data revealed that of these 200 women 25% had been sterilized prior to developing ulcer symptoms, 19% had a major gynecologic procedure, and 25% had become menopausal. Thus, in 69% of the cases, a history of a procedure or event threatening in reality or fantasy the patient's sexual functions was elicited.

Three major characterologic groups emerged from the study: (1) Masculine aggressive women rejecting the female role—in this group the occurrence of gynecologic trauma was not noted to be as significantly related to the onset of ulcer as in Group 3. (2) Inadequate, immature women who had difficulty accepting any adult role functions—here the ulcer appeared to develop after their necessity to assume adult responsibilities

because of the death or loss of a supporting figure. (3) The third and largest group included women who seemingly accepted a female role and functioned without overt psychiatric or psychophysiologic symptoms until the occurrence of (a) a major gynecologic procedure particularly if sterilizing, (b) onset of menopause.

Groups 1 and 2 fit the more "classic" descriptions of women with a history of ulcer previously studied. The surprising finding was the high proportion of women who did not fit the above 2 groups. It is in these women that the striking temporal relationship between gynecologic trauma and onset of ulcer symptoms occurs.

Noted especially in the women who had seemed to function adequately prior to sterilization was a further interesting observation. The onset of the psychophysiological gastrointestinal reaction was closely related in time in some of these cases to events (such as birth of grandchildren, pregnancy in siblings, etc.) which precipitated verbalizations of pregnancy wishes. Frequently the pain of the gastrointestinal reaction was associated

with labor pains. ("It feels just like I'm in labor—though I know I'm not.")

Pregnancy wishes and psychophysiological gastrointestinal reactions are clearly both multidetermined. It is *not* the authors' contention that the "dyspepsia" is a symbolic expression of a wish for pregnancy. However, it may represent in part a primitive psychophysiological state in which pregnancy feelings and wishes are associated with gastrointestinal manifestations(2).

Previous studies have suggested a basic similarity in men and women with peptic ulcer(5). Our findings appear to indicate at least one further factor for consideration.

In view of the above, the following investigations are being considered: (1) Determination of pepsinogen levels(4) in

women who have and have not been sterilized; (2) sterilized and nonsterilized women will be subjected to hypnotically induced pregnancy fantasies under fluoroscopic observation; (3) the catamnoses of sterilized women will be obtained for at least a 5-year period.

BIBLIOGRAPHY

1. Silverman, A. J., Cohen, S. I., Magnusson, F., McGough, E. N. C. *Med. J.*, Feb. 1956.
2. Silverman, A. J., Cohen, S. I., Magnusson, F. Psycho-physiologic correlates in women with peptic ulcer. In preparation.
3. Kesur, E., Kapp, F. T., and Rosenbaum, M.: *Am. J. Psychiat.*, 108: 368, 1951.
4. Mirsky, I. A., Fetterman, P., and Kaplan, S. *J. Lab. & Clin. Med.*, 40: 188, 1952.
5. Alexander, F. *Psychosomatic Medicine*. New York: Norton, 1950.

CASE REPORTS

PSYCHOSIS WITH PHANTOM LIMB PAIN TREATED BY CHLORPROMAZINE¹

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Such profound psychopathological effects as suicide, drug addiction, and severe neurotic pictures occurring with phantom limb pain after loss of an extremity have been described(1), and many observers feel that phantom limb pain itself is a reflection of severe psychopathology(1). Many amputees show personality changes and instability(2), but psychosis was not observed in several large series of amputees(2, 3). Gallinek(4) has reported on a grossly psychotic individual who incorporated the phantom experience into his delusional system after amputation. The following case-report describes an individual who developed amputative phantom limb pain with psychosis which was successfully treated with chlorpromazine.

W. H., a 35-year-old, single male was admitted to hospital on July 1, 1955. He had sustained an accidental gunshot wound of the left calf in 1945 during basic training and subsequently developed chronic osteomyelitis. Otherwise he was robust and muscular, and had been an active, athletic young man, apparently well oriented socially and ambitious for a college education prior to entering the army. Repeated hospitalizations were necessary over a 10-year period and he was able to work only intermittently. He expressed regret at not being able to "support a family and get somewhere" and attributed his failure entirely to his medical problem. Psychological evaluation prior to amputation revealed a chronic reactive depression of mild degree. He had a tendency to give long narrative accounts of his illness to his physicians. There was no evidence of psychosis at this time.

On September 27, 1955, the patient underwent a below-the-knee amputation under spinal anesthesia. His surgical recovery was uneventful. Within a few hours after the surgery, however, his behavior became bizarre and unmanageable; he became exhibitionistic, displaying his stump, and exposing himself immodestly. He tended to make a great display of his physique, and had to be restrained from performing gymnastics in the bed. He spent many hours during the night in the latrine in open masturbatory activity or posing nude before the mirror. His conversation began to have a great deal of

sexual content, and he scandalized visitors with obscene stories.

He first described a phantom limb 5 days post-amputation. At first he noted only a warm and tingling sensation of phantom presence, but soon became aware of phantom pain and this came to dominate his experience. He held that micturition made the phantom and the pain especially strong and that masturbation made the phantom withdraw temporarily. At first he could not see the phantom, but did not seem to doubt its actual presence; then he could "see" a limb under the bed covers and this somehow comforted him. He spoke about getting a shoe with a lift for the phantom limb because it seemed shorter than the other leg.

Phantom limb pain became excruciating and was unrelievable by narcotics. There was no stump tenderness. At this time the patient produced several bizarre letters and pictures, including a drawing in "three dimensions" which he had "traced" from the phantom. He had "little devils" in his foot who "hurt him there." Asked where the devils came from he replied: "From Hell where the rest of the leg probably is." At this time his affect was flat and his mood one of sustained agitation and complete preoccupation with the phantom experience. His thinking was confused and he produced much bizarre, delusional material. Sleep and appetite suffered.

He was placed on chlorpromazine, 50 mg., t.i.d., at first parenterally and then orally. Within a matter of hours agitation and restlessness subsided. He became tractable, complained less of pain, and resumed eating and sleeping. The psychotic content of his thinking became less manifest and within a week subsided completely. Concomitantly, the sensation of phantom limb pain disappeared and he noted only a painless sensation of phantom presence. Chlorpromazine was discontinued 10 days after beginning therapy and recovery continued uneventfully. The patient has continued under observation for 6 months and no recurrence of phantom pain or psychosis has been noted.

This case is of special interest for several reasons. It appears to bear out the general opinion that phantom limb pain occurs in people who present significant psychopathology, and to illustrate to advantage a close relationship between the pain experience and this psychopathology. Even in this brief presentation the narcissistic reluctance to accept the reality of physical mutilation and the

¹ From the V.A. Hospital, Long Beach, Calif.

attempt to preserve the body image intact are clear. The rapid reversal of the psychotic picture together with disappearance of the phantom limb pain following chlorpromazine therapy is interesting and suggests that this drug may have a place in the therapy of some cases of phantom limb pain.

BIBLIOGRAPHY

1. Hoffman, J. J. *Nerv. & Ment. Dis.*, 119: 261, 1954.
2. Randall, G. C., Ewalt, J. R., and Blair, H. *J.A.M.A.*, 128: 645, 1945.
3. Hughes, J., and White, W. L. *U.S. Nav. Med. Bull.*, 46: 157, 1946.
4. Gallinek, A. *Am. J. Psychiat.*, 96: 413, 1939.

AGRANULOCYTOSIS ASSOCIATED WITH CHLORPROMAZINE THERAPY

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The *Journal of the American Medical Association*, January 28, 1956, reported 47 cases of blood dyscrasia associated with chlorpromazine therapy. THE AMERICAN JOURNAL OF PSYCHIATRY, January 1956, reported 2 cases. This is a report of the first case encountered in approximately 400 patients treated with Thorazine.

A married male, age 55, entered the hospital December 30, 1955, in his ninth admission since 1948, exhibiting irritability, agitation, insomnia, and a paranoid trend toward his wife. This was similar to the mental state on some of the previous admissions, which responded to electroshock. Thorazine medication was gradually increased until January 24, 1956, when he began receiving 400 mg. a day with desirable effects. Medication was discontinued February 15. On February 16 he complained of a sore throat and showed a temperature of 102°. He had previously complained for several days about arthritic pains. The temperature rose to 106° by the following noon and the patient appeared acutely ill. Blood count revealed 3,970,000 red cells, Hb. 9.6 gms., leucocytes 400, all lymphocytes. Platelet count was 83,800.

Patient was transferred to the local Veterans Administration General Hospital. Admission findings showed temperature 104.6°, pulse 112, blood pressure 145/75, with diaphoresis and dyspnea. The throat was markedly hyperemic with edema and yellow exudate adherent to the right tonsil. Blood count was essentially as previously noted; neurological findings essentially normal. An unusual feature was splenomegaly extending 5-6 inches below the left costal margin. A bone marrow specimen was completely devoid of granulocytic cells. Present were cells of the normoblastic series, a few stem cells and premyelocytes. Because of penicillin sensitivity, streptomycin and erythromycin were administered, also steroids parenterally and orally. The temperature dropped to normal in about 48

hours and the bone marrow began showing granulopoiesis on the second day after transfer. Course was progressive to recovery with increasing improvement in the differential white cell count, until the tenth day when he had a count of 19,000 with 30% polymorphonuclears. The spleen decreased in size to about one-half that on admission. Optimum leucocytosis reached 28,000 then gradually dropped to 16,000 on the twenty-sixth day, on the twenty-ninth, to 11,400 with polys 81, lymphos 14, large monos 5 and 3 nonfilamentous.

Subject returned to the state hospital on March 12, profoundly depressed, apprehensive, insomniac, with lack of appetite, apparently a reaction to the discontinuance of the steroid medications. There was gradual improvement, and in about 2 weeks he was well enough to have an overnight visit at home.

There is no explanation for the splenomegaly except that this patient had had a moderately enlarged spleen from unknown cause for a number of years. He has had a positive-fast blood serology and a susceptibility to various allergic reactions. The favorable outcome may be attributed to prompt recognition and treatment. In view of the high mortality rate with this complication a warning against overenthusiastic dispensing of the drug on an outpatient basis is justified when supervision is limited. Chlorpromazine should not be dispensed without close supervision to patients with a history of prolonged alcoholism and when alcoholic indulgence is a factor in the mental or emotional disorder under treatment. Chlorpromazine tends to potentiate alcoholic effects, it also tends to strike the same area of insult—the liver function.

CORRESPONDENCE

PSYCHIATRY IN THE CARIBBEAN AREA

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: The Association may be interested in some of my impressions about psychiatry during my visit to hospitals and medical schools in Central America and the West Indies and to a research institute devoted to neurology in Caracas, Venezuela. My wife and I spent a month traveling by air and visiting a number of countries and islands in the Caribbean.

In Guatemala we were met and entertained by Dr. Jose Campo and his wife. During our stay, I visited the National Nutritional Institute (I.N.C.A.P.) of Guatemala, which serves all the Central American countries except Mexico. This Institute does outstanding work, and was recently commended in an editorial in the *Journal of the American Medical Association*. The Institute is working to raise the standard of living in all these countries and to overcome many serious health problems, particularly deficiency diseases, endemic goiter, trachoma, and the like. I was particularly interested in one disease, *Kwashiorkor*, the protein deficiency disease responsible for lack of growth in the Indian population and other impoverished populations. This disease has not been investigated from the standpoint of possible brain damage. I hope that my associates and I can carry on a research project on this problem jointly with the Institute. The disease, first described in Africa as *Kwashiorkor*, is relatively rare except in these countries.

Psychiatry in Guatemala seems to be at a low ebb, and the psychiatrists struggle against great odds to raise the standard of treatment. The poor conditions are partly the result of the former Communist regime, which demoralized the country and left it quite impoverished. For a number of years doctors did not know from one day to the next whether they were going to be permitted to carry on their work. They are especially grateful to the late Ambassador Puerifoy for his cooperative efforts in their behalf.

Adjacent to the National Nutritional Institute are the beginnings of a real medical center, with a large new hospital now partially occupied. With some outside help, Guatemala can well develop an excellent medical center. Dr. Campo took me to the Governmental Mental Hospital, the Military Mental Hospital, and a unique institution that he has developed, devoted exclusively to the rehabilitation of alcoholics. The Communist regime forced the practical closure of this institution by refusing to give it the financial support previously derived from a tax on alcoholic beverages. At great sacrifice Dr. Campo managed to keep the institution barely alive; he now has a promise of governmental help in getting it into full operation soon, despite considerable political opposition and resistance to federal assistance.

Guatemalan psychiatrists will greatly appreciate any assistance that our Association and our medical director can see their way clear to give. Everywhere I found great interest in our Association and eagerness to visit our country and to attend our meetings, but many are handicapped by financial difficulties.

In Panama we were met by the dean of the medical college, Dr. A. Revilla, and the professor of psychiatry, Dr. M. Gorris. I was much impressed by the development of the Panama medical school under Dr. Revilla's leadership. He is a neurosurgeon whose neurosurgical unit is dedicated to his former teacher, Walter E. Dandy. I was taken to the Santo Tomas Hospital, Panama City's general hospital of about 1,000 beds, which has no psychiatric department. There I talked to about 100 staff members and others on "Recent Advances of Therapy in Psychiatry." I also lectured to the county medical association of Panama on "Alcoholic Addiction and Problems of Treatment." Both lectures were illustrated by a movie. The lectures, which seemed to be well received,

were excellently translated by one of Dr. Gorriz's associates.

Later, I visited the medical school, which has been open 2 years, and met the president of the college, Dr. LaGuardia. The beautiful campus site and all the buildings, including the medical school, are supported by the National Lottery. I was greatly impressed with the physical facilities. Classes are limited to 8 members; all entrants have academic degrees. In talking with various staff members I found great interest and eagerness to carry on research projects and to develop the medical school. I am sure Dr. Revilla is largely responsible for this modern medical development in Panama.

In the National Psychiatric Hospital I found 1,370 patients housed in wooden buildings originally set up to care for 600 patients. Living conditions were deplorable, and, because of overcrowding, patients had to sleep on the floor. This institution has very little government help. The funds received from the National Lottery are inadequate, and the amount allotted for psychiatric treatment is minimal. The bright spot is the excellent medical and psychiatric staff, including psychiatric nurses and a social service and active occupational therapy unit. Much of this is due to the efforts of Dr. Gorriz and his loyal staff. The dean of the University is well aware of these deficiencies and is very sympathetic with Dr. Gorriz's problems. Again I feel that our Association could be of some help. Perhaps a visit by our medical director would serve to call attention to special needs. Of the 9 psychiatrists in the Republic of Panama, only one is now a member of our Association.

Dr. C. H. Wiggins, the director, took me through the U. S. Psychiatric Hospital, Correzol, in the Canal Zone, and explained some of the problems. This hospital looks like an extreme maximum security institution, with its prison-like atmosphere, steel walls, and bars everywhere. Dr. Wiggins has good personnel but a very limited budget and facilities. The only occupational therapy is carried on by a few volunteer workers who have started some handicraft. The budget allows no money for patients' clothing and less than 50 cents a day per patient for food. The personnel are adequately paid,

but almost as much is spent on maintenance of the grounds as for the entire patient care. The only outside assistance is an annual Community Chest allotment of \$1,800, which must supply all the recreational facilities, motion pictures, tobacco, candy, and luxuries for the patients. The facilities, far below the standard of minimum care, are a disgrace to the U. S. Government and to our military forces.

In Caracas, Venezuela, I spent a day at the Venezuelan Institute for Neurology and Brain Research with its director, Dr. H. Fernandez Moran. After years of planning, Dr. Moran, in one year, has literally carved out of a jungle, high above the city, the beginning of an extraordinary research institute in cerebral diseases. The road leading up to the Institute, which has an elevation of 6,000 feet, cost a million dollars a mile to build and is about 8 miles from the center of the city. About 4 to 5 million dollars have been spent in the pilot buildings, research, housing of personnel, water plant, and laboratory equipment. The plan, which has the backing of the minister of health and the president of Venezuela, calls for a large annual expenditure for 15 to 20 years.

Dr. Moran has associated with him fellow scientists from Stockholm and Switzerland who are doing outstanding basic research in neurophysiology, biophysics, and cellular pathology. His electron microscope studies have established his reputation as an authority on the submicroscopic organization of vertebrate nerve fibers. For this investigation he developed a microtone for cutting sections of nervous and other tissues at thicknesses of 100A or less, and designed a diamond knife, which is made from local industrial diamonds. I believe that this Institute will become one of the leading international scientific research institutes.

Because of limited time I did not visit any psychiatric hospitals in Venezuela. But later, in the British West Indies, I visited the hospital at Trinidad. Dr. Lewis, the psychiatrist in charge, though not a member of our Association, is eager to become one. I would like to suggest his name for membership in the coming year.

In 1955 we visited other countries, Puerto Rico, Haiti, and the Dominican Republic.

The country most advanced in psychiatry was Puerto Rico with its fine medical school. We have accepted a resident in training for 1957 from Jamaica.

Many of our Association members would enjoy visiting Central America and various countries in the Caribbean. Although they would be shocked at some of the primitive conditions existing in psychiatry at the present time, they would likewise be impressed with the eagerness and the scientific grasp of psychiatrists in these areas. These colleagues need public backing and help of our Association with many of their problems.

In Panama, for instance, a number of lay people and clergy attended my lecture and asked about setting up an Alcoholics Anonymous organization. The problem of alcoholism in Guatemala is very acute and must be coped with in order to raise standards of living. Dr. Campo's work, for example, deserves government aid.

I feel our Association should extend our membership to include South America, thus making it an Association of the Americas.

A. E. BENNETT, M. D.,
Berkeley, Calif.

COMMENT

NATIONAL LIBRARY OF MEDICINE

On Tuesday, March 13, 1956 was introduced in the United States Senate a bill (the Hill-Kennedy Bill) to create, primarily in the interests of research, a National Library of Medicine. This bill is of the utmost importance and it is to be hoped that it will receive the approval of Congress.

A national medical library, the largest in the world, already exists in Washington but under another name. Its story is one of the most significant chapters in medical history. In 1836 Surgeon General Lovell organized the Surgeon General's Library for use of the armed services of the United States. In 1952 the enormously expanded library was rechristened The Armed Forces Medical Library. A phenomenal period of growth and development had marked the distinguished librarianship of Col. John Shaw Billings (1865-1895).

In 1892 and again in 1901 Congress authorized the library to extend its research services to include civilian as well as military medicine; and the result, perhaps not widely appreciated, is that the demands upon its resources by civilian medical research throughout the country have come to exceed by far the calls from the military establishment. The library retains its original functions but has taken on so many others, that it is in point of fact a national library and deserves to be so established and recognized.

The number of books in the Armed Forces Medical Library has been increasing steadily and it has long since outgrown its present quarters. Containing more than 650,000 bound volumes its new acquisitions number some 25,000 annually. In addition it receives more than 5,000 medical periodicals, the current literature dealing with research and clinical practice in nearly every country in the world being represented here. The monuments of history and world-wide reports from the front line of medical discovery are housed in this unique national library and are available for research workers across the continent. Through its loan serv-

ice more than 30,000 volumes are annually made use of in this way. Reference questions addressed to the library are answered by the staff at the rate of 1000 or more every month. For the advancement of medical science the resources of this library are inestimable and indispensable.

But what is the present position of this great institution? In June, 1954 the American Medical Association reported to Congress: "The irreplaceable collections of the Armed Forces Medical Library are now housed in a 67-year-old building totally unsuitable for the purpose by reason of its inadequate size, poor state of repair, susceptibility to fire hazard, and general inadaptability to efficient operations."

The A. M. A. expressed the belief "that a new building for the Armed Forces Medical Library is of paramount importance to the best interests of American medicine and health of our country, and calls on the appropriate agencies of our Government to give immediate priority to this most important project."

This was two years ago.

The Hoover Commission's Task Force Report emphasized the need for a new National Library of Medicine. At present, it stated, "The library is ineffectively placed in point of administration, inadequately housed, and too poorly supported to permit effective conduct of its pertinent functions. For over 30 years the library has needed a new building. It now requires an annual increase of a mile of shelf space. Its collections are constantly threatened by loss from fire and have undergone actual damage through exposure to weather and improper storage."

The urgent need of creating an independent national medical library in Washington by act of Congress, is beyond question. Dr. Alan Gregg, vice-president of the Rockefeller Foundation and a medical statesman of world renown has stated: "No defence for the amounts being spent on medical

research by all the government agencies can be made if we continue to neglect the need for one adequate library, such as this library could be made."

Speaking of the Hill-Kennedy bill now

before Congress, Dr. Gregg sums up the situation in apposite words: "Probably no legislative action could so profoundly and favorably affect the resources and the utilization of medical literature in this country."

BODY AND MIND

We are still only at the periphery of knowledge of the living processes, and so far as the mind is concerned and its relationship to the rhythm of bodily processes we are almost as much in the dark as our predecessors of the time of Empedocles, Hippocrates, Plato, Aristotle, and others who nevertheless saw its importance. Let us not fall into the error, however, of thinking that because a thing is unknown, it is unknowable, but remember that as the miracles of yesterday are the common practices of to-day, so the mysteries of to-day may be the commonplaces of to-morrow.

To attempt to unravel the relationships of body and mind in man is a formidable undertaking, but it must be undertaken, and if we could obtain insight into this relationship we should not only see the road towards the maintenance of health but also obtain light in matters which at present are quite obscure.

—SIR SYDNEY SMITH,
A. Finlayson Memorial Lecture, 1952

NEWS AND NOTES

TRIBUTE TO FOSTER KENNEDY.—A group of Dr. Foster Kennedy's colleagues and friends are raising a fund for building a canteen at the Bellevue Hospital Center for the accommodation of attending physicians, outpatients, visitors, and volunteers. Such an establishment will supply a long-felt want as there has been hitherto no place in Bellevue where visitors could procure food.

The ladies of the Social Service Auxiliary are sponsoring this project, any profits from which will go to further the work of the Auxiliary in the hospital.

It is proposed to erect a plaque in Dr. Kennedy's memory. It will read:

"In Tribute to Foster Kennedy, M.D.,
F. R. S. (Edin.) D. Sc.

Director of the 2nd Medical Neurological
Division 1919-1949

A great teacher, an eminent clinician and a
zestful trusted friend."

One of Foster Kennedy's sayings was
"The primary ego is the gastro-intestinal
tract."

Contributions may be sent to Social Service Auxiliary to Bellevue Hospital, Room 11, Bellevue Hospital, New York 16, N. Y.

UNIVERSITY OF MISSOURI EDUCATIONAL CONFERENCE.—This year the University of Missouri plans to hold the first of a series of annual conferences in special education. This conference will be held as a part of the 1956 University of Missouri summer session, June 21-22, and will be of interest to all teaching areas in special education and to those employed in allied services.

There will be 3 general sessions and a double series of sectional meetings. Speakers will include Dr. Bob Gates, Director of Special Education in the State of Florida; Dr. Samuel A. Kirk, Director of the Institute of Research for Exceptional Children at the University of Illinois; and Dr. Ray Graham, Director of Special Education for the State of Illinois.

THE WORLD MEDICAL ASSOCIATION.—The Secretariat of The World Medical Association and the United States Committee, Inc. moved on May 1, 1956 to a suite of offices in the Coliseum Tower Office Building at 10 Columbus Circle, New York 19, New York.

The Coliseum and its associated executive office building, just completed, are the first buildings to be completed in the current plan of New York City leaders to provide the city with a new civic center within which the major organizational, cultural and convention activities of the city will take place. The Coliseum was planned to accommodate the increasing number of large conventions wishing to meet in New York City. It is so constructed that three separate conventions may be held within its premises simultaneously.

THE WOODS SCHOOLS SPRING CONFERENCE.—The theme of the Woods Schools Spring Conference, held May 11-12, at the Medical Center Auditorium in Indianapolis, was "Services for Exceptional Children." Sponsored as a public service by the Woods Schools, the Indiana University School of Medicine, and the State Division of Mental Health, the conference was widely attended by physicians, educators, social workers, counselors, and interested parent organizations. The Honorable George N. Craig, governor of the State of Indiana and Dr. Lloyd Dunn, coordinator of Special Education of the George Peabody College, Nashville, Tennessee, addressed the opening session.

MANFRED SAKEL FOUNDATION BROCHURE.—A reappraisal of the classical Sakel shock treatment has been published recently in pamphlet form by the Manfred Sakel Foundation. The pamphlet contains an article on "The Philosophy of Organicism in Psychiatry" as well as a lengthy article by Dr. Manfred Sakel outlining the development of his method and his personal reassessment of it. Copies may be obtained from The Man-

fred Sakel Foundation, 17 East 63rd Street, New York 21, N. Y. for 75 cents each.

A.P.A. DIVISIONAL MEETING IN MONTREAL.—This, the second divisional meeting of The American Psychiatric Association and the first to cover the North-Eastern American and Canadian Branches, will be held at the Sheraton-Mount Royal Hotel in Montreal, November 8-11. The first divisional meeting in San Francisco last year was a clinical, financial, and social success, and the prospects are for a duplication of that success at the Montreal meeting which enjoys the sponsorship of branches in New York, New Jersey, Connecticut, Massachusetts, and Canada. A very interesting clinical and social program is being planned to include members and their families.

PUBLIC HEALTH RESEARCH GRANTS.—The Public Health Service has announced a new procedure to expedite the processing of research grant applications for those requests which do not exceed \$2,000 plus indirect costs and which do not ask support for more than 1 year. Such applications will be accepted and processed on receipt and are not therefore subject to the usual deadlines for submission prior to review.

Council recommendations can be expected on these applications within 1-4 months from the time of submission. These procedures do not apply for requests for supplements to existing grants.

Address all applications, as well as requests for forms or additional information, to the Division of Research Grants, National Institute of Health, Bethesda 14, Maryland.

AMERICAN NEUROLOGICAL ASSOCIATION.—The eighty-first annual meeting of the American Neurological Association will be held at the Claridge Hotel, Atlantic City, New Jersey, June 18-20, 1956, under the presidency of Johannes M. Nielsen, M. D., of Los Angeles, California.

All communications regarding the meeting should be addressed to Charles Rupp, M. D., Secretary of the Association, 133 South 36th Street, Philadelphia 4, Pennsylvania.

CONFERENCE ON RESEARCH IN NEUROPSYCHIATRY.—Sponsored by Veterans Administration Hospital and University of Louisville School of Medicine, a Conference on Clinical and Basic Research in Neuropsychiatry was held in the V. A. Hospital auditorium April 27, 1956.

Topics in the scientific session included "Some Neurophysiological Bases of Psychology," and "Electrical Stimulation of the Mid-Brain in Chronic Schizophrenia."

LAFAYETTE CLINIC DEDICATION CEREMONIES.—The dedication ceremonies for the Lafayette Clinic, a new training and research psychiatric hospital under the Department of Mental Health of the State of Michigan and Wayne University were held during the period May 8-11, 1956. The initial day of the dedication was followed by 2 days of Open House with the last day being devoted to a professional program. Doctors Harold E. Himwich, Florence B. Powdermaker, and Lawrence S. Kubie participated on the latter day.

NEW PEDIATRICS FELLOWSHIP.—A new fellowship program to prepare candidates for an academic career in pediatric education with an emphasis on the social science and psychological aspects of pediatrics will be initiated by the department of pediatrics of State University of New York Medical Center in Syracuse in the autumn of 1956.

In addition to the cultural, social, and psychological relations of pediatrics, ample opportunity for continuing experience in pediatric practice and teaching will be available.

The program provides for a 3-year training period with the appointment of 1 Fellow each year, so that a maximum of 3 Fellows will be in training at one time. Candidates should have completed their residency training in pediatrics. The program is being supported by a grant from the Commonwealth Fund.

Inquiries should be addressed to: Dr. Julius B. Richmond, Department of Pediatrics, State University College of Medicine, Syracuse 10, N. Y.

NORTHVILLE CLINICAL RESEARCH SYMPOSIUM.—The second clinical research symposium sponsored by this hospital will be held June 6, 1956. The subject this year is atropine toxicity therapy, and a full schedule of lectures, clinical demonstrations, and discussions will be presented. Further information may be obtained from Dr. G. R. Forrer, Northville State Hospital, Northville, Michigan.

ST. ELIZABETHS HOSPITAL.—The new Dorothea Lynde Dix Pavilion of St. Elizabeths Hospital was dedicated April 13, 1956. At the dedication ceremonies the large assemblage was addressed by the Honorable Richard M. Nixon, Vice-President of the United States.

ASSOCIATION OF PSYCHIATRISTS AND NEUROLOGISTS OF FRANCE AND FRENCH-SPEAKING COUNTRIES.—The 54th congress of this Association will take place at Bordeaux from August 30 to September 4, 1956. The following reports will be presented: Personality Tests, by Professor Pichot; Frontal Tumors, by Dr. Boudouresques; and Architectural

Problems of the Mental Hospital, by Dr. Bouquerel.

BIBLIOGRAPHY OF CHILDHOOD SCHIZOPHRENIA.—The Henry Ittleson Center for Child Research has published an annotated bibliography of papers in English on childhood schizophrenia and related disorders through 1954. This publication contains 584 entries and is available through Basic Books, Inc., 59 Fourth Avenue, New York 3, N. Y., for \$2.50.

AMERICAN PSYCHOSOMATIC SOCIETY.—At the annual business meeting of the Society, March 24, 1956, in Boston, the following persons took office: I. Arthur Mirsky, M. D., president; Theodore Lidz, M. D., president-elect; Morton F. Reiser, M. D., secretary-treasurer.

Elected to Council were: Louis Linn, M. D., Eugene Meyer, M. D., Eric D. Witkower, M. D., Harold G. Wolff, M. D.

The 14th annual meeting of the Society will be held May 4-5, 1957, at Chalfonte-Haddon Hall, in Atlantic City.

BOOK REVIEWS

HEALTH MANPOWER SOURCE BOOK. Prepared by Maryland Y. Pennell and Marion A. Atten-derfer. (Washington: U. S. Public Health Service, 1955. Price: Section 1, *Physicians*, \$.40; Section 2, *Nursing Personnel*, \$.40; Section 3, *Medical Social Workers*, \$.40; Section 4, *County Data*, \$1.75.)

These 4 volumes furnish an excellent compilation of information regarding the present and probable future supplies of medical personnel of all kinds and types, though singling out for particular study the 3 professional groups indicated in the titles. The volume on Medical Social Work, treating as it has a field difficult to define and including but 3,300 persons of the total of 75,000 in the social work field, appears unjustified from a numerical point of view; it is equal in size to the volumes on physicians, treating 200,000, and on nursing which deals with 700,000.

Nothing more can be done in a review of these fact-packed volumes than pick out a point or two from each for comment. A table in Volume 1 shows that specialists in psychiatry were 5 times as numerous in 1949 as in 1923, but that E.N.T. specialists had doubled, internists sextupled, obstetricians and gynecologists septupled in the same period. Psychiatry is, roughly the fourth most common specialty in medical practice, internal medicine, surgery, E. N. T., and obstetrics and gynecology having more practitioners. Another table will give an idea of the "attractive power" of medical schools, if this can be judged from the ratio of applications to accepted students.

In the nursing volume, the impressive fact is the size of the profession. There are almost 2 registered nurses per physician, and 4 plus if all personnel directly caring for patients are included. There is sparse information about psychiatric nursing in the volume.

Volume 4 indicates different available methods for classification of communities, with special emphasis on the county, and gives facts about the distribution of medical personnel. An outstanding finding duplicates one of world-wide experience as well—that medical personnel is in better supply where financial resources are greater. Since illness is distributed more in the inverse pattern, this is illogical and unfortunate and presents a major problem of administration of medical services.

There is little data directly bearing on psychiatry, but ample material to be applied in this field.

PAUL V. LEMKAU, M.D.,
Director, Mental Health Services,
New York City.

MODERN TRENDS IN PSYCHOSOMATIC MEDICINE. By Desmond O'Neill. (New York: Harper, 1955.)

After reading this book one wonders if it should not have been entitled "Essays of Psychosomatic Interest." It comprises 21 essays on a variety of

topics and syndromes. Each chapter is contributed by a different British specialist, and one by O'Neill himself. The first 3 chapters are general, and the last 3 devoted to therapy.

Philip Hopkins (Chapter 1) lists a series of disorders in which he feels the psychosomatic approach is required and calls these stress disorders but with no reference to Selye's concept of stress. The criteria for such a disorder are: "(1) It begins at a time of crisis or special stress; (2) its course varies with the degree of strain; and, (3) it clears with alteration in the life situation or with psychotherapy." He concludes from his survey that "there is at present approximately some 40 per cent of the sick population [in Great Britain] in need not of drugs, but of psychotherapy," and comments that this cannot be given by physicians with the maximum number of patients permitted under the National Health Service, but may possibly be provided by physicians who have an additional source of remuneration.

Todd (Chapter 2), in discussing the psychosomatic concept, notes that there is nothing modern in the idea that many bodily diseases are caused by emotional disturbances, and continues "what is perhaps now new is the idea that particular diseases, or groups of diseases, should be classified under the heading of 'psychosomatic' or, alternatively, 'stress diseases'." But he, too, has little to say about stress. O'Neill (Chapter 3) writes briefly of Doctor, Patient, and Student.

The next 15 chapters are devoted to problems in the specialties and to specific illness syndromes. For example, a chapter is devoted to limb pains in children, and another to music and migraine. There is a good chapter on pediatrics which the author describes as cursory impressions, and one on Suggestion and Hypnosis in Obstetrics. Skin Disorders, Essential Hypertension, Thyrotoxicosis, and Emotion and Eye Symptoms are among the other chapter headings. About half the chapters are without summary or conclusion, as is the book itself.

These chapters are not exhaustive treatises but each author discusses some phase or phases of his subject which has interested him, and offers suggestions and clues which may be stimulating. Aside from this there is little new. The discussions are neither complete nor completely up to date, as, for example, the discussion of "psychosomatic diseases." Nevertheless they make good reading, particularly for those already somewhat conversant with the field.

FLANDERS DUNBAR, M.D.,
New York City.

PROSPECTS IN PSYCHIATRIC RESEARCH. Edited by J. M. Tanner, M.D. (Oxford: Blackwell Scientific Publications, 1953. Price: \$5.75.)

This book is a collection of essays given at a Conference at Magdalen College, Oxford, convened

by the Mental Health Research Fund in March 1952.

Some 48 different investigators participated in the conference in an attempt to formulate answers to the following 2 questions: (1) "What are the ignorances which today principally hamper our understanding of the nature, prevention, and cure of mental illness?" (2) "What advances in research are most likely to remove these, and so help to reduce the population of mental hospitals and institutions for delinquents?"

Each essay was discussed by several other men in the same field.

Prof. Le Gros Clark writes on "Ignorances in the Anatomical Field," Dr. J. A. V. Bates on "Ignorances in the Physiological Field," Prof. A. Lewis on "Points of Research into Interaction between the Individual and the Culture," Prof. Russell on "The Contribution of Studies of Animal Behavior," and Drs. Richter, Reiss, and Professor Elkes on "Ignorances in Biochemistry, Endocrinology, and Pharmacology."

Each individual area listed above is covered in a comprehensive, scholarly manner and is a good survey of that particular field. However, there is a failure throughout, except in Prof. Lewis' essay, to relate the preclinical sciences to the general field of psychiatry. Neglected in this survey is the entire field of dynamic psychiatry, psychoanalysis, and general clinical psychiatry. The social sciences with the exception of Prof. Lewis' chapter are completely omitted.

Although the individual essays are valuable, they do not adequately represent modern psychiatric thinking. Since the entire field of dynamic psychiatry and much of the social sciences are omitted, the narrow scope of the conference carried out under the ambitious title of "Prospects in Psychiatric Research" is disappointing.

DANIEL H. FUNKENSTEIN, M. D.,
Boston, Mass.

THE UNIQUE INFLUENCE OF THE JOHNS HOPKINS UNIVERSITY ON AMERICAN MEDICINE. By Richard Harrison Shryock. (Copenhagen: Ejnar Munksgaard, 1955. Price, bound: Dan. kr. 17.50.)

In the 63 text pages of this book is told the story of a unique institution established under unique conditions laid down by its founder, at a favorable time in the history of education, by an extraordinary group of medical giants, under the guidance of the quite exceptional first president of the university.

In Shryock's dramatic words: "An 'angelic conjunction' of men, money, and circumstances hovered over Baltimore in 1876. Even the year was auspicious: just a century after the declaration of political independence, the Hopkins, in effect, announced American independence in scholarship and science."

A few quotations will indicate the content of this book. Professor Shryock starts off with the striking statement: "Although still a young institution, the Johns Hopkins is the oldest university in the

United States." To be explicit: "For more than two centuries there had been little that was 'higher' about so-called higher education. Then, with apparent suddenness between 1875 and 1895, the Hopkins emerged . . . a modern university in spirit as well as in form, providing professional training within a research-centered environment. Nothing like this emphasis upon the advancement of knowledge, as distinct from the transmission of learning, had been known before in this country; and it made a profound impression upon academic circles throughout the nation." The point is emphasized by President Eliot of Harvard who stated that the Harvard Graduate School, "started feebly in 1870 and 1871, did not thrive, until the example of Johns Hopkins forced our Faculty to put their strength into the development of our instruction for graduates. And what was true of Harvard was true of every other university in the land. . . ." It was Hopkins' inspired first president, Daniel Coit Gilman, who "envisaged advanced training and research as processes which could be undertaken then and there . . . thus Hopkins set up training facilities which previously had been available only overseas. . . . Never before, in the United States, had medical education been envisaged as an integral part of a university program."

Long years of planning and consultation at home and abroad preceded the establishment of the hospital (1889) and the medical school (1893). President Gilman relied heavily upon the versatile Dr. John Shaw Billings, outstanding medical librarian and hospital authority. Billings designed the hospital buildings and laid down organizational and educational plans that were found good to follow. He advocated small classes with combined clinical and laboratory work. He looked ahead to the development of fields hitherto neglected in American medical schools, notably public hygiene, pediatrics, psychiatry, and the history of medicine.

A major first step was the insistence on building the medical staff on a national or international basis. (The general rule in existing schools had been to recruit their staffs from among local doctors.) Extremely fortunate, indeed providential, were the first two medical appointments—Welch as pathologist and Osler as physician-in-chief. With them were soon associated Halsted in surgery, and Kelly in gynecology. (These were The Four Doctors of Sargent's celebrated painting.) Other brilliant colleagues were soon assembled—Mall in anatomy, Howell in physiology, Williams in obstetrics, Thayer in internal medicine, Barker in neuroanatomy and medicine, Flexner in pathology and bacteriology. Thus was constituted initially at Hopkins a galaxy of medical leaders quite unprecedented in American schools.

Several conditions established at the beginning set the Hopkins school apart from other medical schools in the country: classes were to be small; the course was to be four years (at least a year longer than elsewhere); full college training, including the basic sciences were required for admission; women to be admitted on the same basis as men.

Other medical schools followed suit in raising their standards and lengthening their courses (4 years became standard after 1912) but the doors were generally closed to women elsewhere for quite a long time.

A radical departure from custom was the establishment of full-time professorships—first in the basic sciences and later in the clinical branches as well. A goal constantly held in view was the provision of advanced clinical training as well as preparing men for teaching and research. "Prior to the opening of the Hopkins Hospital, opportunities for post-internship training in specialties were unknown in the United States."

Shryock traces the many directions in which the Hopkins influence led not only to fundamental reforms in medical education and the advancement of medical science, but to a vast widening of the instrumentalities of health generally. It led to the establishment of the Rockefeller Institute for Medical Research, and to the devastating Flexner report, *Medical Education in the United States and Canada* (1910). "Out of nearly 150 medical colleges then in existence, Flexner gave somewhat favorable statements on only 5 schools. 'The Hopkins was his model. He stated: 'This was the first medical school in America of genuine university type. . . . *The influence of this new foundation can hardly be overstated.*'"

The enlistment of foundation money in support of medical science was another result of the Hopkins influence. At about the time that the hospital and medical school were launched it had been stated that American theological schools' endowments amounted to \$18,000,000, while only \$500,000 went to medical schools. "But between 1903 and 1934, nine foundations alone granted to medical institutions about \$154,000,000. . . . Thus medicine, completely neglected until about 1900, became thereafter the chief beneficiary of public giving."

Another Hopkins innovation was the Phipps Psychiatric Clinic, founded in 1913, "the first department to transform psychiatry from the almost exclusive concern of 'asylum' superintendents to the status of a university discipline."

Still another first was the founding of the School of Hygiene and Public Health in 1916. Director F. F. Russell of the International Health Board declares that the advent of the School of Hygiene at Hopkins, with Welch as its promoter and first director, "marked the turning point in public health education not only in this country but throughout the world."

Of great significance was the establishment of a professorship in the history of medicine in 1926 and in 1930 the creation of the Institute of History of Medicine with funds provided by the General Education Board. Like the other new departments at Hopkins, the Institute was the first of its kind in the United States. The Welch Medical Library, likewise created in 1930 by merging the libraries of the hospital and of the School of Medicine and the School of Hygiene, became the home of the Institute, and Welch, the moving spirit throughout the developmental period at Hopkins, now in his eightieth year, became the first professor of the history of medicine. Certain other schools established similar chairs. It was high time. There had been, and still is, too much paleophobia in medical disciplines, especially in psychiatry.

One index of the spreading influence of the Hopkins Medical School was the number of its graduates called to professorships in other institutions from the very beginning. From the first 4 small classes (1897-1900) some 13 graduates attained full professorships. From classes 1901 to 1910 the number gaining this rank was 51, during the next decade, 112.

Another scale is provided by the number of Hopkins men who turned to research and specialization—since research implies specialization—as compared with the graduates from other schools. In an analysis made in 1932 of all "recent graduates" from medical schools, the number who had become specialists showed the following ratios: Johns Hopkins, 75%, Harvard, 64%, Michigan, 44%; Pennsylvania, 40%.

Professor Shryock, who had occupied the chair in medical history at the University of Pennsylvania, came to the Hopkins in 1949 as director of the Institute of the History of Medicine. He closes his study with this striking paragraph: "To Hopkins, more than to any other one institution, the country was indebted after 1900 for a veritable revolution in the nature and status of the medical sciences—with all that this implied for human welfare. This was a development of major importance in the social and cultural life of the nation, and the meaning of the Hopkins epic is missed if these wider relationships and consequences are ignored. Here is a tradition which should and will be maintained, no doubt in changing forms adapted to changing circumstances."

C. B. F.

In nature there are neither rewards nor punishments—there are consequences.

—ROBERT S. INGERSOLL

ANNUAL INDEX

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The same applies to book reviews, the complete title of the book being listed under the author's name in the list entitled Book Reviews in the Subject Index.

Titles under the Subject Index are often inverted or shortened, and when there are two or more authors, the name of only the first is shown. For the complete author reference, the Author Index should be consulted. The Subject Index covers original articles, biographical and historical material, book reviews, obituaries, and editorial comments.

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- Frenkel in Treatment of Disturbed Patients with Psychoses of Long Duration; F. Rinaldi, 343, Nov. '55.
- International Colloquium on Chlorpromazine and Neuroleptic Medications in Psychiatric Treatment, Paris, Oct. 20-22, 1955, Report, 749, Mar. '56.
- Limitations of Use of Private Practice (Corr.), 850, Apr. '56.
- Meprobamate in the Treatment of Psychotic Patients (C.N.); J. Barsa, 1023, June '56.
- Private Practice, Use in; A. Bennett, 782, Apr. '56.
- Psychosis with Phantom Limb Pain Treated by Chlorpromazine (C.R.); J. Miles, 1027, June '56.
- Publicity Re (Corr.), 661, Feb. '56.
- Reserpine in Disturbed Psychotic Patients; J. Barsa, 684, Mar. '56.
- Atlas of Men* (R.); W. Sheldon, 77, July '55.
- Autism: Autistic Child in Adolescence; L. Eisenberg, 607, Feb. '56.

B

- Basic Problems in Psychiatry* (R.); J. Wortis, 478, Dec. '55.
- Biochemistry:
- Adrenocortical Function in Schizophrenia; E. Bliss, 358, Nov. '55. See Corr. Re: 748, Mar. '56.
- Adrenocortical Responsivity to Stress and ACTH (Corr.), 748, Mar. '56.
- Diagnostic Aspects of a Study of Intracellular Phosphorylations in Schizophrenia; I. Boszormenyi-Nagy, 11, July '55.
- Phenylketonuria: Absence of in Adult Psychotics (C.N.); R. Cares, 938, May '56.
- Review of Psychiatric Progress, 1955, Symp.; O. Langworthy, 514, Jan. '56.
- Serum Magnesium and Other Electrolytes in Insulin-Induced Hypoglycemia (C.N.); J. Hammarsten, 1024, June '56.
- Theories of Indoles in Schizophrenigenesis (C.N.); W. Turner, 466, Dec. '55.
- Biological Roots of Psychiatry: Academic Lecture; R. Gerard, 81, Aug. '55.
- Book Reviews:
- Abramson, Harold A., ed.: Problems of Consciousness. Transactions of the Fifth Conference, 959, May '56.
- Alexander, Leo: Treatment of Mental Disorder, 475, Dec. '55.
- Altenderfer, Marion A.: See Pennell, Maryland Y., jt. auth.
- Andrews, George Clinton: Diseases of the Skin; 4th ed., 951, May '56.
- Assembly of the State of California: California Sexual Deviation Research, 240, Sept. '55.
- Bailey, Percival: See MacKay, Roland P., jt. ed.
- Beck, Samuel J.: The Six Schizophrenias, 240, Sept. '55.
- Bellak, Leopold: The Tat and Cat in Clinical Use, 399, Nov. '55.
- Berg, Irwin A.: See Pennington, L. A., jt. auth.
- Bettag, Otto L.; Slight, David; Wenig, Philip W.; and Sorensen, William H.: The Aged and Aging in Illinois. Part I. The Mentally Ill, 400, Nov. '55.
- Bluemel, C. S.: Psychiatry and Common Sense, 399, Nov. '55.
- Bonaparte, Marie: Psychoanalyse et Anthropologie, 238, Sept. '55.
- Bonaparte, Marie: Psychoanalyse et Biologie, 238, Sept. '55.
- Bonaparte, Marie; Freud, Anna; Kris, Ernst, eds.: The Origins of Psychoanalysis. Sigmund Freud's Letters to Wilhelm Fliess, 669, Feb. '56.
- Braatdy, Trygve: Fundamentals of Psychoanalytic Technique, 761, Mar. '56.
- Brand, Howard, ed.: The Study of Personality: A Book of Readings, 318, Oct. '55.
- Bromberg, Walter: Man Above Humanity: A History of Psychotherapy, 760, Mar. '56.
- Cabot, Hugh; and Kahl, Joseph A.: Human Relations. Vol. I. Concepts in Concrete Social Science. Vol. II. Cases in Concrete Social Science, 312, Oct. '55.
- Carmichael, Leonard, ed.: Manual of Child Psychology, 2d ed., 758, Mar. '56.
- Cecil, R. L.; and Loeb, R. F.: Textbook of Medicine, 860, Apr. '56.
- Chase, Marian Tyler: See Chase, Stuart, jt. auth.
- Chase, Stuart; and Chase, Marian Tyler: Power of Words, 234, Sept. '55.
- Cleghorn, R. A.: See Wittkower, Eric D., jt. auth.
- Coleman, Marie L.: See Nichtenhauser, Adolph, jt. auth.
- Conn, Howard F.: Current Therapy—1955, 316, Oct. '55.
- Crosser, Paul K.: The Nihilism of John Dewey, 398, '55.
- Dinis, Seabra: See Fernandes, Barahona, jt. auth.

- Drooz, Irma Gross: Doctor of Medicine, 952, May '56.
- Duyckaerts, Fr.: *La Notion de Normal en Psychologie Clinique*, 760, Mar. '56.
- Edwards, Allen L.: Edwards Personal Preference Schedule, 761, Mar. '56.
- Edwards, Allen L.: Statistical Methods for the Behavioral Sciences, 862, Apr. '56.
- Eie, Niles: Macroscopical Investigations of Twenty-Nine Brains Subjected to Frontal Leucotomy, with Some Observations on Clinico-pathological Correlations, 763, Mar. '56.
- Engle, Bernice: See Lewis, Nolan, D. C., jt. auth.
- Ey, Henri: *Etudes Psychiatriques*. Vol. 3. Structure des Psychoses Aigues et Destruction de la Conscience, 314, Oct. '55.
- Ey, Henri, ed.: *Psychiatrie Clinique et Therapeutique de L'Encyclopedic Medico-Chirurgicale*, 476, Dec. '55.
- Faris, Robert E. L.: Social Disorganization, 2d ed., 398, Nov. '55.
- Fernandes, Barahone; and Dinis, Seabra: *La Therapeutique Occupationnelle en Psychiatrie (Occupational Therapy in Psychiatry)*, 671, Feb. '56.
- Frank, Jerome D.: See Powdermaker, Florence B., jt. auth.
- Freeman, Walter: See Robinson, Mary Frances, jt. auth.
- Freud, Anna: See Bonaparte, Marie, jt. auth.
- Freud, Sigmund: On Aphasia: A Critical Study, 955, May '56.
- Galdston, Iago: The Meaning of Social Medicine, 156, Aug. '55.
- Ganz, Madelaine: The Psychology of Alfred Adler and the Development of the Child, 951, May '56.
- Gauger, Kurt: Die Dystrophie als Psychosomatisches Krankheitsbild, 238, Sept. '55.
- Gellhorn, E.: Physiological Foundations of Neurology and Psychiatry, 479, Dec. '55.
- Grinker, Roy R.; and Robbins, Fred P.: Psychosomatic Case Book, 667, Feb. '56.
- Haan, A. M. F. H.: See Lups, S., jt. auth.
- Halmos, Paul: Solitude and Privacy. A Study of Social Isolation, Its Causes and Therapy, 79, July '55.
- Hare, C. C.: See Hooker, D., jt. ed.
- Harms, Ernest: Essentials of Abnormal Child Psychology, 237, Sept. '55.
- Harrower, Molly: Appraising Personality. The Use of Psychological Tests in the Practice of Medicine, 239, Sept. '55.
- Henry, Andrew F.; and Short, James F.: Suicide and Homicide, 77, July '55.
- Henry, George W.: All the Sexes, 480, Dec. '55.
- Hertzman, M.: See Witkin, H. A., jt. auth.
- Hess, Walter Rudolph: Diencephalon. Autonomic and Extrapyramidal Functions, 762, Mar. '56.
- Heuser, Gunnar: See Selye, Hans, jt. auth.
- Hoch, Paul; and Zubin, Joseph: Current Problems in Psychiatric Diagnosis, 234, Sept. '55.
- Hodgson, Kenneth W.: The Deaf and Their Problems, 320, Oct. '55.
- Hooker, D.; and Hare, C. C., eds.: Genetics and the Inheritance of Integrated Neurological and Psychiatric Patterns, 399, Nov. '55.
- Horner, Lord: The British Encyclopaedia of Medical Practice. Medical Progress, 1954, 672, Feb. '56.
- Ingram, Madalene Elliott: Principles and Techniques of Psychiatric Nursing, 4th ed., 671, Feb. '56.
- Janz, Dieter; and Matthes, Ansgar: Die Propulsiv-Petit Mal-Epilepsie. Klinik und Verlauf der sog. Blitz und Nick und Salaamkrämpfe, 764, Mar. '56.
- Jenkins, Richard L.: Breaking Patterns of Defeat: The Effective Readjustment of the Sick Personality, 950, May '56.
- Jones, Maxwell: The Therapeutic Community, 477, Dec. '55.
- Jung, C. G.: Answer to Job, 952, May '56.
- Jung, C. G.: *Mysterium Coniunctionis*, 949, May '56.
- Kahl, Joseph A.: See Cabot, Hugh, jt. auth.
- Karnes, M.: See Kirk, S., jt. auth.
- Karpman, Benjamin: The Sexual Offender and His Offences, 860, Apr. '56.
- King, H. E.: Psychomotor Aspects of Mental Disease, 670, Feb. '56.
- Kirk, S.; Karnes, M.; and Kirk, W.: You and Your Retarded Child, 758, Mar. '56.
- Kirk, W.: See Kirk, S., jt. auth.
- Knight, Robert, ed.: Psychoanalytic Psychiatry and Psychology, 956, May '56.
- Krich, A. M., ed.: The Homosexuals. As Seen by Themselves and Thirty Authorities, 78, July '55.
- Kris, Ernst: See Bonaparte, Marie, jt. auth.
- Larsson, Tage; and Sjögren, Torsten: A Methodological, Psychiatric, and Statistical Study of a Large Swedish Rural Population, 75, July '55.
- LeComte, Edward S., ed.: Dictionary of Last Words, 75, July '55.
- Lewis, H. B.: See Witkin, H. A., jt. auth.
- Lewis, Nolan D. C.; and Engle, Bernice: War-time Psychiatry, 314, Oct. '55.
- Lieberman, Samuel, ed.: Stress Situations, 314, Oct. '55.
- Linn, Louis: A Handbook of Hospital Psychiatry, 576, Jan. '56.
- Llaverro, F.: Symptom und Kausalität, 954, May '56.
- Loeb, R. F.: See Cecil, R. L., jt. auth.
- Lombard, George F.: See Roethlisberger, F. J., jt. auth.
- Lowenfeld, Margaret: The Lowenfeld Mosaic Test, 668, Feb. '56.
- Lups, S.; and Haan, A. M. F. H.: The Cerebrospinal Fluid, 957, May '56.
- Machover, K.: See Witkin, H. A., jt. auth.
- MacKay, Roland P.; Wortis, S. Bernard; and Bailey, Percival, eds.: Year Book of Neu-

- rology, Psychiatry, and Neurosurgery, 235, Sept. '55.
- Masserman, Jules H.: *The Practice of Dynamic Psychiatry*, 949, May '56.
- Matthes, Ansgar: *See* Janz, Dieter, jt. auth.
- Mayer-Gross, W.; Slater, Eliot; and Roth, Martin: *Clinical Psychiatry*, 574, Jan. '56.
- Michaels, Joseph J.: *Disorders of Character. Persistent Enuresis, Juvenile Delinquency, Psychopathic Personality*, 316, Oct. '55.
- Missner, P. Bretnall: *See* Wirkin, H. A., jt. auth.
- Moore, Sherwood: *Hyperostosis Cranii*, 157, Aug. '55.
- Moses, Paul: *The Voice of Neurosis*, 764, Mar. '56.
- Nathan, Helmuth: *See* Standard, Samuel, jt. auth.
- National Conference of Social Work: *The Social Welfare Forum, 1953. Official Proceedings, 80th Annual Meeting*, 950, May '56.
- Newton, Miles: *Maternal Emotions*, 759, Mar. '56.
- Nichtenhauser, Adolph; Coleman, Marie L.; and Ruhe, David S.: *Films in Psychiatry, Psychology, and Mental Health*, 236, Sept. '55.
- Odum, Doris: *Psychology, The Nurse, and the Patient*, 2d ed., 317, Oct. '55.
- Oliven, John F.: *Sexual Hygiene and Pathology. A Manual for the Physician*, 765, Mar. '56.
- O'Neill, Desmond: *Modern Trends in Psychosomatic Medicine*, 1037, June '56.
- O'Sullivan, Eamon N. M.: *Textbook of Occupational Therapy with Chief Reference to Psychological Medicine*, 960, May '56.
- Penman, John; and Smith, Marion C.: *Intracranial Gliomata*, 317, Oct. '55.
- Pennell, Maryland Y.; and Altenderfer, Marion A.: *Health Manpower Source Book*, 1037, June '56.
- Pennington, L. A.; and Berg, Irwin A.: *Introduction to Clinical Psychology*, 2d ed., 315, Oct. '55.
- Pepinsky, Harold B.; and Pepinsky, Pauline Nichols: *Counseling Theory and Practice*, 959, May '56.
- Pepinsky, Paul Nichols: *See* Pepinsky, Harold B., jt. auth.
- Phillips, Leslie; and Smith, Joseph G.: *Rorschach Interpretation: Advanced Technique*, 236, Sept. '55.
- Piaget, Jean: *The Construction of Reality in the Child*, 156, Aug. '55.
- Pichot, Pierre: *Les Tests Mentaux*, 313, Oct. '55.
- Podolsky, Edward, ed.: *Management of Addictions*, 573, Jan. '56.
- Pohlisch, Kurt: *Arbeit und Gesundheit. Tabak: Betrachtungen ueber Genuss- und Rauchpharmaka*, 954, May '56.
- Porot, Maurice: *L'Enfant et Les Relations Familiales*, 80, July '55.
- Powdermaker, Florence B.; and Frank, Jerome D.: *Group Psychotherapy. Studies in Methodology of Research and Therapy*, 672, Feb. '56.
- Rehder, Hans: *Konversion und Reversion Klinischer Neurosen*, 237, Sept. '55.
- Reitman, Francis: *Insanity, Art, and Culture*, 766, Mar. '56.
- Robbins, Fred P.: *See* Grinker, Roy R., jt. auth.
- Robinson, Mary Frances; and Freeman, Walter: *Psychosurgery and the Self*, 78, July '55.
- Roethlisberger, F. J.; Lombard, George F.; and Ronken, Harriet I.: *Training for Human Relations. (An Interim Report.)*, 573, Jan. '56.
- Ronken, Harriet I.: *See* Roethlisberger, F. J., jt. auth.
- Roth, Martin: *See* Mayer-Gross, W., jt. auth.
- Rümke, H. C.: *Psychiatrie*, 859, Apr. '56.
- Ruhe, David S.: *See* Nichtenhauser, Adolph, jt. auth.
- Runes, Dagobert D., ed.: *Treasury of Philosophy*, 160, Aug. '55.
- Sargant, William; and Slater, Eliot: *An Introduction to Physical Methods of Treatment in Psychiatry*, 3d ed., 476, Dec. '55.
- Schafer, Roy: *Psychoanalytic Interpretation in Rorschach Testing: Theory and Application*, 575, Jan. '56.
- Schneider, Kurt: *Psychiatrie Heute*, 314, Oct. '55.
- Schwartz, Morris S.: *See* Stanton, Alfred H., jt. auth.
- Selye, Hans; and Heuser, Gunnar: *Fourth Annual Report on Stress*, 1954, 316, Oct. '55.
- Sheldon, William H.: *Atlas of Men*, 77, July '55.
- Short, James F.: *See* Henry, Andrew F., jt. auth.
- Shryock, Richard Harrison: *The Unique Influence of the Johns Hopkins University on American Medicine*, 1038, June '56.
- Sill, Alfreda P.: *See* Thompson, Charles B., jt. auth.
- Sjögren, Torsten: *See* Larsson, Tage, jt. auth.
- Skattowe, Ian: *Clinical Psychiatry. For Practitioners and Students*, 312, Oct. '55.
- Slater, Eliot: *See* Mayer-Gross, W., jt. auth.
- Slater, Eliot: *See* Sargant, William, jt. auth.
- Slight, David: *See* Bettag, Otto L., jt. auth.
- Smith, Joseph G.: *See* Phillips, Leslie, jt. auth.
- Smith, Marion C.: *See* Penman, John, jt. auth.
- Solomon, Joseph C.: *A Synthesis of Human Behavior*, 320, Oct. '55.
- Sorensen, William H.: *See* Bettag, Otto L., jt. auth.
- Spiegel, E. A., ed.: *Progress in Neurology and Psychiatry*, 235, Sept. '55.
- Standard, Samuel; and Nathan, Helmuth: *Should the Patient Know the Truth?*, 313, Oct. '55.
- Stanton, Alfred H.; and Schwartz, Morris S.: *The Mental Hospital*, 317, Oct. '55.
- Tanner, J. M., ed.: *Prospects in Psychiatric Research*, 1037, June '56.
- Thompson, Charles B.; and Sill, Alfreda P.: *Our Common Neurosis*, 239, Sept. '55.
- Thorne, Frederick C.: *Principles of Psychological Examining. A Systematic Textbook*, 765, Mar. '56.

- Tredgold, A. F.; and Tredgold, R. F.: *Manual of Psychological Medicine for Practitioners and Students*, 3d ed., 158, Aug. '55.
- Tredgold, R. F.: *See* Tredgold, A. F., jt. auth.
- Wapner, S.: *See* Witkin, H. A., jt. auth.
- Weinstein, Edwin A.; and Kahn, Robert L.: *Denial of Illness*, 477, Dec. '55.
- Weitzenhoffer, André M.: *Hypnotism. An Objective Study in Suggestibility*, 668, Feb. '56.
- Wenig, Philip W.: *See* Bettag, Otto L., jt. auth.
- West, D. J.: *Psychical Research Today*, 863, Apr. '56.
- White, J. E. Manchip: *Anthropology*, 763, Mar. '56.
- Williams, R. H., ed.: *Textbook of Endocrinology*, 2d ed., 960, May '56.
- Wilson, A. A. Kinnier: *Neurology*. Vols. I-III. 2d ed., 863, Apr. '56.
- Witkin, H. A.; Lewis, H. B.; Hertzman, M.; Machover, K.; Missner, P. Bretnall; and Wapner, S.: *Personality through Perception: An Experimental and Clinical Study*, 319, Oct. '55.
- Wittkower, Eric R.; and Cleghorn, R. A.: *Recent Developments in Psychosomatic Medicine*, 953, May '56.
- Woods School, The: *The Adolescent Exceptional Child. A Realistic Approach to Treatment and Training. Proceedings of the 1954 Spring Conference of the Child Research Clinic*, 959, May '56.
- Wortis, Joseph, ed.: *Basic Problems in Psychiatry*, 478, Dec. '55.
- Wortis, S. Bernard: *See* MacKay, Roland P., jt. ed.
- Wretmark, Gerdt: *The Peptic Ulcer Individual*, 158, Aug. '55.
- Zilboorg, Gregory: *The Psychology of the Criminal Act and Punishment*, 957, May '56.
- Zubin, Joseph: *See* Hoch, Paul, jt. auth.
- Brain Tumors:**
- Intracranial Neoplasms in Psychotic Patients*; N. Raskin, 481, Jan. '56.
- Misleading Mental Symptoms*; W. Chambers, 387, Nov. '55.
- Brigham, Amariah: *Life and Works*; E. Carlson, 831, Apr. '56.
- Butler Hospital, *Closing of* (Ed.), 229, Sept. '55.
- C**
- Carbon Dioxide Therapy: *An Evaluation*; A. La Verne, 107, Aug. '55.
- Careers in Psychiatry (Ed.), 305, Oct. '55.
- Catatonia:**
- Catatonic Excitement and Death from Lower Nephron Nephrosis*; A. Gianaccol, 382, Nov. '55.
- Cortisone in Acute Catatonic Excitement*; W. Wiedorn, 457, Dec. '55.
- Physiological Concomitants of Phasic Disturbance in Periodic Catatonia*; A. Bonkalo, 11, Aug. '55.
- Cerebral Palsy: British Methods for Treatment of Spastics*; T. Fay, 29, July '55.
- Cerebrospinal Fluid* (R.); S. Lups, 957, May '56.
- Character Disorders: Disorders of Character. Persistent Enuresis, Juvenile Delinquency, and Psychopathic Personality* (R.); J. Michaels, 316, Oct. '55.
- Chicago: *Psychiatric Facilities*; F. Gerty, 837, Apr. '56.
- Child Psychiatry and Childhood Problems: Adolescent Exceptional Child* (R.); Woods School, 959, May '56.
- Aggressive Behavior Disorders of Childhood*; H. Morris, Jr., 991, June '56.
- Autistic Child in Adolescence*; L. Eisenberg, 607, Feb. '56.
- Construction of Reality in the Child* (R.); J. Piaget, 156, Aug. '55.
- Essentials of Abnormal Child Psychology* (R.); E. Harms, 237, Sept. '55.
- Homburger, August: *Pioneer in (H.N.)*, 146, Aug. '55.
- L'Enfant et Les Relations Familiales* (R.); M. Porot, 80, July '55.
- Manual of Child Psychology* (R.); L. Carmichael, 758, Mar. '56.
- Play and Neuroses of Children*; F. Schneersohn, 47, July '55.
- Pregnancy Experience and Development of Behavior Disorder*; B. Passamanick, 613, Feb. '56.
- Psychology of Alfred Adler and the Development of the Child* (R.); M. Ganz, 951, May '56.
- Review of Psychiatric Progress, 1955. Symp.*; L. Kanner, 531, Jan. '56.
- You and Your Retarded Child* (R.); S. Kirk, 758, Mar. '56.
- Chlorpromazine: See* Ataractics.
- Clinical Psychiatry: Review of Psychiatric Progress, 1955. Symp.*; P. Hoch, 522, Jan. '56. *See* Corr. re: 850, Apr. '56.
- Comic Books* (Ed.), 854, Apr. '56.
- Command Automatism and Echopraxia to Television* (C.R.); C. Hay, 65, July '55.
- Community Studies: Distribution of Psychiatric Symptoms in a Small Town*; D. Leighton, 716, Mar. '56.
- Conferences and the Conscience* (Ed.), 566, Jan. '56.
- Consciousness, Problems of* (R.); H. Abramson, 959, May '56.
- Convulsive Disorders:**
- Die Propulsiv-Petit Mal Epilepsie* (R.); D. Janz, 764, Mar. '56.
- Review of Psychiatric Progress, 1955. Symp.*; B. Berman, 541, Jan. '56.
- Counseling: Theory and Practice* (R.); H. Pepinsky, 959, May '56.
- Creative Writing and Criticism: Some Psychiatric Considerations*; M. Moore, 423, Dec. '55.
- Criminology: See also** Forensic Psychiatry.
- Psychiatric Treatment of Prisoners at the California Medical Facility*; N. Showstack, 821, Apr. '56.

- Psychology of the Criminal Act and Punishment* (R.); G. Zilboorg, 957, May '56.
Cushing's Syndrome and Its Management (C.R.); P. Hertz, 144, Aug. '55.

D

- Deafness: *The Deaf and Their Problems* (R.); 320, Oct. '55.
Defenses: Their Nature and Function; J. Reid, 1015, June '56.
Denial of Illness (R.); A. Weinstein, 477, Dec. '55.
Denmark: Legal Abortion in (Ed.), 662, Feb. '56.
Dermatology: *Diseases of the Skin* (R.); G. Andrews, 951, May '56.
Dewey, John: *Nihilism of* (R.); P. Crosser, 398, Nov. '55.
Dictionary of Last Words (R.); E. LeCompte, 75, July '55.
Diencephalon. Autonomic and Extrapyramidal Functions (R.); W. Hess, 762, Mar. '56.
Doctor, Evolution of: *Autobiography of Irma Gross* (R.), 952, May '56.
Dreams:
 Dream Association: Reassociation in Dreams (C.N.); H. Abramson, 300, Oct. '55.
 Total Loss of Teeth in (C.N.); J. Schneek, 939, May '56.
Drugs and Drug Therapy: *See also* Ataractics.
 Cetadiol (5-Androstene-3 16 Diol) in Treatment of Hospitalized Alcoholics (C.N.); C. Campbell, 845, Apr. '56.
 Chlorpromazine for Headache (C.N.); H. Archibald, 390, Nov. '55.
 Coramine-Electroshock Therapy in Treatment of Schizophrenia; P. Lighthart, 619, Feb. '56.
 Morphine Idiosyncrasy (C.R.); M. Kehoe, 846, Apr. '56.
 Pacatal Used in Psychiatric Patients (P.C.R.); N. Kline, 63, July '55.
 Psychiatric Side Effects of Iproniazid; G. Crane, 494, Jan. '56.
 Sedative Drugs—Is it Safe to Withdraw Them?; M. Levin, 910, May '56.
 Succinylcholine Dichloride Administration in Electroshock; D. Impastato, 893, May '56.
 Uses of Drugs in Psychiatric Research; A. Wikler, 961, June '56.
"Dry Drunk": Psychodynamics of; J. Flaherty, 460, Dec. '55.

E

- Editorial Policy: Shop Talk (Ed.); 566, Jan. '56.
Education:
 Controlled Mental Health Workshop in a Public School System; B. Balser, 199, Sept. '55.
 Mental Health in; Review of Psychiatric Progress, 1955, Symp.; W. Ryan, 544, Jan. '56.
Egas Moniz: His Life and Work; W. Freeman, 769, Apr. '56.
EEG:
 Differentiation between Anxiety and Depression

- by Photically Activated EEG; C. Shagass, 41, July '55.
 EEG Investigation on Largactil in Psychosis; A. Szatmari, 788, Apr. '56.
 Intracerebral Recordings from Psychotic Patients During Hallucinations and Agitation; C. Sem-Jacobsen, 278, Oct. '55.
 Review of Psychiatric Progress, 1955, Symp.; W. Liberson, 517, Jan. '56.
Electroshock Therapy:
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 Combined with Coramine in Treatment of Schizophrenia; P. Lighthart, 619, Feb. '56.
 Complications: Strangulation of a Diaphragmatic Hernia (C.N.); B. Rioux, 466, Dec. '55.
 Danger of Various Types of Medication During (Corr.), 745, Mar. '56.
 Fatality Due to Tracheal and Bronchial Obstruction; W. Tuteur, 624, Feb. '56.
 Methods of Administration of Succinylcholine Dichloride in; D. Impastato, 893, May '56.
 Modern Methods in; E. Parsons, 18, July '55.
 Peroneal Nerve Palsy in (C.N.); E. Mason, 299, Oct. '55.
 Prolonged Coma Following (C.R.); H. Schapire, 940, May '56.
Emotions: Stress and Emotional Health; J. Whitehorn, 773, Apr. '56.
Endocrinology:
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 Textbook of (R.); R. Williams, 960, May '56.
Epilepsy: *See also* Convulsive Disorders.
 Emotional and Psychological Factors in; W. Caveness, 190, Sept. '55.
 Emotional and Psychological Factors: Physiological Background; W. Liberson, 91, Aug. '55.
Encyclopedia of Psychiatry: *Psychiatrie Clinique et Therapeutique* (R.); H. Ey, 476, Dec. '55.
Etiology: *Symptom und Kausalität* (R.); F. Llaverro, 954, May '56.
Etudes Psychiatriques. Structure des Psychoses Aigues et Destruction de la Conscience (R.); H. Ey, 314, Oct. '55.
European Psychiatry: Observations and Comments on; F. Freyhan, 673, Mar. '56.
Experimental Psychiatry: Principle of Dementia Praecox (Corr.), 391, Nov. '55.
Experimental Psychotic States; J. MacDonald, 570, June '56.

F

- Family Care: Review of Psychiatric Progress, 1955, Symp.; W. Barton, 554, Jan. '56.
Family Studies:
 Adjustment of Siblings in Large Families; J. Bossard, 889, May '56.
 Schizophrenia in the Youngest Male Child of the Lower Middle Class; B. Roberts, 129, Aug. '55.
Far East: Psychiatry in; K. Bowman, 919, May '56.

Fatalities:

Fatal Acute Aseptic Necrosis of the Liver Associated with Chlorpromazine (C.R.); R. Elliott, 940, May '56.

Fatality from Lower Nephron Nephrosis Complicating Acute Catatonic Excitement; A. Gianascol, 382, Nov. '55.

Sudden Death Precipitated by Anxiety Complicating Aortic Stenosis (C.R.); E. Isberg, 743, Mar. '56.

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Homosexual in Court; M. Guttmacher, 591, Feb. '56.

Psychiatric Evaluation of Laws of Homosexuality; K. Bowman, 577, Feb. '56.

Psychodynamic Patterns in the Homosexual Offender; B. Glueck, 584, Feb. '56.

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 Bonkalo, A.; Lovett Doust, J. W.; and Stokes, A. B.: Physiological Concomitants of the Phasic Disturbances Seen in Periodic Catatonia, 114, Aug. '55.
 Bookhammer, Robert S.: Arthur Percy Noyes, M.D., President 1954-1955: A Biographical Sketch, 8, July '55.
 Bossard, James H. S.; and Boll, Eleanor Stoker: Adjustment of Siblings in Large Families, 889, May '56.
 Boszormenyi-Nagy, Ivan; and Gerty, Francis J.: Diagnostic Aspects of a Study of Intracellular Phosphorlations in Schizophrenia, 11, July '55.
 Bowman, Claude C.: Loneliness and Social Change, 194, Sept. '55.
 Bowman, Karl M.: Alcoholism. Geriatrics (Review of Psychiatric Progress, 1955), 537, Jan. '56.
 Bowman, Karl M.: Psychiatry in the Far East, 919, May '56.
 Bowman, Karl M.; and Engle, Bernice: A Psychiatric Evaluation of Laws of Homosexuality, 577, Feb. '56.
 Branch, C. H. Hardin: See Bliss, Eugene, jt. auth.
 Brown, Fred: See Balser, Benjamin H., jt. auth.
 Brown, Minerva L.: See Balser, Benjamin H., jt. auth.
 Brown, William: See Pisetsky, Joseph E., jt. auth.
 Bruck, Max A.: Contribution to the Survey of Handwriting. The "Gestalt" of Handwriting of Apparently Normal Persons in Comparison with Specimens of Institutionalized Mental Patients, 640, Feb. '56.

C

- Cahn, C. H.: Complication During Reserpine Therapy (C.R.), 64, July '55.
 Caldwell, Bettye M.: See Ulett, George A., jt. auth.
 Cameron, D. Ewen: Psychic Driving, 502, Jan. '56.
 Campbell, Coyne H.; and Sleeper, Harold G.: Cetadiol (5-Androstene-3 16-Diol) in the Treat-

- ment of Hospitalized Alcoholics (C.N.), 845, Apr. '56.
- Canter, Aaron: Observations on Group Psychotherapy with Hospitalized Patients (C.N.), 297, Oct. '55.
- Cares, Reuben M.: Absence of Phenylketonuria in Adult Psychotics. A Survey of 4,246 Inmates of a State Mental Hospital (C.N.), 938, May '56.
- Carey, James B., Jr.; and Magraw, Richard M.: Agranulocytosis with Chlorpromazine (C.R.), 565, Jan. '56.
- Carl, Ann: *See* Turner, Wm. J., jt. auth.
- Carmichael, Donald M.: *See* Kris, Else B., jt. auth.
- Carlson, Eric T.: Amariah Brigham: I. Life and Works, 831, Apr. '56.
- Caveness, William F.: Emotional and Psychological Factors in Epilepsy. General Clinical and Neurological Considerations, 190, Sept. '55.
- Caveny, E. L.: Marginal Manpower in the Military Forces, 123, Aug. '55.
- Chambers, William R.: Neurosurgical Conditions Masquerading as Psychiatric Diseases, 387, Nov. '55.
- Clancy, John; Hoffer, Abram; Lucy, John; Osmond, Humphrey; Smythies, John; and Stefaniuk, Ben: A Plan for Testing the Efficacy of a New Drug in the Treatment of Schizophrenia (Research Abstract), 291, Oct. '55.
- Cleckley, Hervey M.; and Thigpen, Corbett H.: The Dynamics of Illusion, 334, Nov. '55.
- Cohen, David: *See* Schmidt, Donald P., jt. auth.
- Cohen, Sanford I.; Silverman, Albert J.; and Magnusson, Finn: New Psychophysiological Correlates in Women with Peptic Ulcers (C.N.), 1025, June '56.
- Cohen, Senta Feibleman: *See* Zwerling, Israel, jt. auth.
- Collins, Ralph T.; and Klemes, Marvin A.: Industrial Psychiatry (Review of Psychiatric Progress, 1955), 546, Jan. '56.
- Conn, Jacob H.: Adolf Meyer Discusses the Pathology of Dementia Praecox, 366, Nov. '55.
- Corcoran, Mary E.: Psychiatric Nursing (Review of Psychiatric Progress, 1955), 549, Jan. '56.
- Cowden, Richard C.; Zax, M.; Hague, J. Ross; and Finney, R. C.: Chlorpromazine: Alone and as an Adjunct to Group Psychotherapy in the Treatment of Psychiatric Patients, 898, May '56.
- Crane, George E.: The Psychiatric Side-Effects of Iproniazid, 494, Jan. '56.
- Cranawick, Edward H.: Tracer Iodine Studies on Thyroid Activity and Thyroid Responsiveness in Schizophrenia, 170, Sept. '55.
- Cross, Thomas N.: Porphyria—A Deceptive Syndrome, 1010, June '56.
- Culbertson, William: *See* Zwerling, Israel, jt. auth.
- D
- Denber, Herman C. B.; and Bird, Etta G.: Chlorpromazine in the Treatment of Mental Illness. II. Side Effects and Relapse Rates (P.C.R.), 465, Dec. '55.
- Denber, Herman C. B.; and Bird, Etta G.: Chlorpromazine in the Treatment of Mental Illness. III: The Problem of Depression (P.C.R.), 1021, June '56.
- Diamond, Bernard L.: Isaac Ray and the Trial of Daniel M'Naghten, 651, Feb. '56.
- Diaz-Guerrero, Rogelio: Neurosis and the Mexican Family Structure, 411, Dec. '55.
- Dodge, Henry W., Jr.: *See* Sem-Jacobsen, Carl W., jt. auth.
- DuBois, Franklin S.: Occupational Therapy (Review of Psychiatric Progress, 1955), 550, Jan. '56.
- E
- Ebaugh, Franklin G.; and Barnes, Robert H.: Psychiatric Education (Review of Psychiatric Progress, 1955), 561, Jan. '56.
- Edinger, Edward F.: Archetypal Patterns in Schizophrenia, 354, Nov. '55.
- Eisenberg, Leon: The Autistic Child in Adolescence, 607, Feb. '56.
- Eisenberg, Leon. *See* Kanner, Leo, jt. auth.
- Eliasberg, W. G.: Allgemeine Ärztliche Gesellschaft für Psychotherapie, 1926-31. History of the Six Congresses, 738, Mar. '56.
- Elliott, R. N.; Schrut, A. H.; and Marra, J. J.: Fatal Acute Aseptic Necrosis of the Liver Associated with Chlorpromazine (C.R.), 940, May '56.
- Elvidge, A. R.: *See* Kral, V. A., jt. auth.
- Engle, Bernice: *See* Bowman, Karl M., jt. auth.
- Escoll, P. J.: *See* Morris, H. H., Jr., jt. auth.
- Ewalt, Jack R.: The Community Stake in the Mental Health Program, 248, Oct. '55.
- F
- Fay, Temple: A Clinical Survey of British Methods for the Treatment of Spastics, 29, July '55.
- Fellner, C. H.; and Weil, P. L.: Low Normal Intelligence and Schizophrenia, 349, Nov. '55.
- Finesinger, Jacob E.: *See* Barrabee, Paul, jt. auth.
- Finesinger, Jacob E.: *See* Reid, John R., jt. auth.
- Finney, R. C.: *See* Cowden, Richard C., jt. auth.
- Fisher, Frances M.: The Function of the Psychiatric Social Worker (Note on Casework), 295, Oct. '55.
- Fitzgerald, John F.: *See* Fogel, Ernest J., jt. auth.
- Flaherty, J. A.; McGuire, H. T.; and Gatski, Robert L.: The Psychodynamics of the "Dry Drunk," 460, Dec. '55.
- Fogel, Ernest J.: Swepston, Emil R.; Zintek, Sylvester S.; Vernier, Claire M.; Fitzgerald, John F.; Marnocha, Richard S.; and Weschler, Charles H.: Problems of the Aging: Conclusions Derived from Two Years of Interdisciplinary Study of Domiciliary Members in a Veteran Administration Center, 724, Mar. '56.
- Ford, F. R.: *See* Bennett, A. E., jt. auth.
- Freedman, Daniel X.; Redlich, F. C.; and Igersheimer, Walter W.: Psychosis and Allergy: Experimental Approach, 873, May '56.
- Freeman, Walter: Egaz Moniz (1874-1955). His Life and Work, 769, Apr. '56.
- Freeman, Walter: Psychosurgery (Review of Psychiatric Progress, 1955), 520, Jan. '56.

- Freyhan, F. A.: Course and Outcome of Schizophrenia, 161, Sept. '55.
 Freyhan, F. A.: Observations and Comments on European Psychiatry, 673, Mar. '56.
 Funkenstein, Daniel H.: The Interrelationship of Acute Emergency Reactions During Stress and Affective Disorder (Research Abstract), 930, May '56.

G

- Galvin, James A. V.: *See* MacDonald, John M., jt. auth.
 Gatski, Robert L.: *See* Flaherty, J. A., jt. auth.
 Geocaris, K. H.; and Kooiker, J. E.: Blood Pressure Responses of Chronic Schizophrenic Patients to Epinephrine and Mecholyl, 808, Apr. '56.
 Gerard, R. W.: The Academic Lecture. The Biological Roots of Psychiatry, 81, Aug. '55.
 Gerty, Francis J.: The Psychiatric Facilities of Chicago and Surroundings, 837, Apr. '56.
 Gerty, Francis J.: *See* Boszormenyi-Nagy, Ivan, jt. auth.
 Gianascol, Alfred J.: Death from Lower Nephron Nephrosis Complicating Acute Catatonic Excitement. A Case Report, 382, Nov. '55.
 Giansiracusa, Joseph E.: *See* Saver, Gordon, jt. auth.
 Gitelson, Maxwell: Psychoanalyst, U. S. A., 1955, 700, Mar. '56.
 Gleser, Goldine C.: *See* Ulett, George A., jt. auth.
 Glueck, Bernard C.: Psychodynamic Patterns in the Homosexual Sex Offender, 584, Feb. '56.
 Gonzales Calzada, D.: *See* Miranda Ortiz, E., jt. auth.
 Gore, Charles: *See* Sifneos, Peter E., jt. auth.
 Gottschalk, Louis: *See* Zwierling, Israel, jt. auth.
 Gralnick, Alexander: *See* Rioux, Berchmans, jt. auth.
 Greaves, Donald C.; Regan, Peter F., III; and West, Louis J.: An Evaluation of Subcoma Insulin Therapy, 135, Aug. '55.
 Greenberg, Paul D.: *See* Pearl, David, jt. auth.
 Guttmacher, Manfred S.: The Homosexual in Court, 591, Feb. '56.

H

- Hague, J. Ross: *See* Cowden, Richard C., jt. auth.
 Hamilton, Donald M.: *See* Moss, Leonard M., jt. auth.
 Hammarsten, James F.; and Smith, William O.: Serum Magnesium and Other Electrolytes in Insulin-Induced Hypoglycemia (C.N.), 1024, June '56.
 Hawkinson, John: *See* Hodges, Allen, jt. auth.
 Hay, Celestine: Command-Automatism and Echopraxia to Television (C.R.), 65, July '55.
 Hayman, Max: Current Attitudes to Alcoholism of Psychiatrists in Southern California, 485, Jan. '56.
 Herman, Morris: *See* LaVerne, Albert A., jt. auth.
 Hertz, Philip E.; Nadas, Endre; and Wojtkowski, Henry: Cushing's Syndrome and Its Management (C.R.), 144, Aug. '55.
 Himwich, H. E.: *See* Rinaldi, F., jt. auth.

- Hoch, Paul H.: Aims and Limitations of Psychotherapy, 321, Nov. '55.
 Hoch, Paul H.: Progress in Psychiatric Therapies, 241, Oct. '55.
 Hoch, Paul H.; and Lewis, Nolan D. C.: Clinical Psychiatry Including Psychotherapy (Review of Psychiatric Progress, 1955), 522, Jan. '56.
 Hodges, Allen; and Hawkinson, John: Contributions of Psychology to Psychiatry (C.N.), 741, Mar. '56.
 Hoffer, Abram: *See* Clancy, John, jt. auth.
 Hollingshead, A. B.; and Redlich, F. C.: Social Mobility and Mental Illness, 179, Sept. '55.
 Holman, Colin B.: *See* Sem-Jacobsen, Carl W., jt. auth.
 Holzberg, Jules D.: *See* Zeichner, Abraham M., jt. auth.

I

- Igersheimer, Walter W.: *See* Freedman, Daniel X., jt. auth.
 Impastato, David J.; and Berg, Seymour: Convulsive Therapy with Amplitude Modulated Unidirectional Currents (Reiter) (Research Abstract), 932, May '56.
 Impastato, David J.; and Berg, Seymour: Methods of Administration of Succinylcholine Dichloride in Electroshock Therapy with a Description of a Simple and Modified Technique and a Succinylcholine Dichloride Test, 893, May '56.
 Isberg, Emil M.: Sudden Death Precipitated by Anxiety Complicating Aortic Stenosis (C.R.), 743, Mar. '56.
 Israel, Robert H.; and Johnson, Nelson A.: Discharge and Readmission Rates of 4,254 Consecutive First Admissions of Schizophrenia, 903, May '56.

J

- Jacob, Gunther M.: *See* Kline, Nathan S., jt. auth.
 Johnson, Nelson A.: *See* Israel, Robert H., jt. auth.
 Johnson, R. P.: *See* Lighthart, P. W. K., jt. auth.
 Jones, Maxwell: The Concept of a Therapeutic Community, 647, Feb. '56.
 Joseph, Edward D.: *See* Balser, Benjamin H., jt. auth.

K

- Kallman, Franz J.: Heredity and Eugenics (Review of Psychiatric Progress, 1955), 510, Jan. '56.
 Kallman, Franz J.; and Roth, Bernard: Genetic Aspects of Preadolescent Schizophrenia, 599, Feb. '56.
 Kanner, Leo; and Eisenberg, Leon: Child Psychiatry. Mental Deficiency (Review of Psychiatric Progress, 1955), 531, Jan. '56.
 Keating, J. U.: *See* Parsons, E. H., jt. auth.
 Kehoe, Michael J.: An interesting Case of Idiosyncrasy to Morphine (C.R.), 846, Apr. '56.
 Klemes, Marvin A.: *See* Collins, Ralph T., jt. auth.
 Kline, Nathan S.; and Jacob, Gunther M.: Use of Pacatal (N-methylpiperidyl-(3)-Methylphenothiazine) in Psychiatric Patients (P.C.R.), 63, July '55.
 Kline, Nathan S.: *See* Barsa, Joseph A., jt. auth.

- Klumpner, George H.: Army Psychiatry in Korea Following the Cease Fire Agreement. A Follow-up Evaluation of 149 Psychiatric Patients from the 3rd Infantry Division, 260, Oct. '55.
- Kolb, Lawrence: The Mental Hospitalization of the Aged: Is It Being Overdone?, 627, Feb. '56.
- Kooiker, J. W.: *See* Geocaris, K. H., jt. auth.
- Kral, V. A.; and Elvidge, A. R.: Four Years' Experience with Prefrontal Lobotomy, 375, Nov. '55.
- Kris, Elsie B.; and Carmichael, Donald M.: Follow-up Study on Patients Treated with Thorazine (P.C.R.), 1022, June '56.

L

- Lamb, Richard; and Mahl, George F.: Manifest Reactions of Patients and Interviewers to the Use of Sound Recording in the Psychiatric Interview, 731, Mar. '56.
- Langworthy, Orthello R.: Neuropathology, Endocrinology, and Biochemistry (Review of Psychiatric Progress, 1955), 514, Jan. '56.
- LaVerne, Albert A.; and Herman, Morris: An Evaluation of Carbon Dioxide Therapy, 107, Aug. '55.
- Lawrence, G. H.: *See* Parsons, E. H., jt. auth.
- Lazarte, Jorge A.: *See* Sem-Jacobsen, Carl W., jt. auth.
- Lebo, Dell: The Development of Play as a Form of Therapy: From Rousseau to Rodgers, 418, Dec. '55.
- Leighton, Dorothea C.: The Distribution of Psychiatric Symptoms in a Small Town, 716, Mar. '56.
- Lepson, David: *See* Tuteur, Werner, jt. auth.
- Levin, Max: Is it Safe to Withdraw Sedative Drugs?, 910, May '56.
- Levine, Maurice: *See* Zwerling, Israel, jt. auth.
- Lewis, Nolan D. C.: *See* Hoch, Paul H., jt. auth.
- Liberson, W. T.: Electroencephalography (Review of Psychiatric Progress, 1955), 517, Jan. '56.
- Liberson, W. T.: Emotional and Psychological Factors in Epilepsy: Physiological Background, 91, Aug. '55.
- Lighthart, P. W. K.; Johnston, R. P.; and Sussman, E.: Evaluation of Combined Coramine-Electroshock Therapy in the Treatment of Schizophrenia, 619, Feb. '56.
- Lilienfeld, Abraham M.: *See* Pasamanick, Benjamin, jt. auth.
- Love, Jean O.: Educational Background and Job Adjustment of Private Hospital Psychiatric Aides, 186, Sept. '55.
- Lovett Doust, J. W.: *See* Bonkalo, A., jt. auth.
- Lucy, John: *See* Clancy, John, jt. auth.
- Malmö, Robert B.: Physiological Study of Personal Interaction (Research Abstract), 934, May '56.
- Marnocha, Richard S.: *See* Fogel, Ernest J., jt. auth.
- Marra, J. J.: *See* Elliott, R. N., jt. auth.
- Mason, Edward: Peroneal Nerve Palsy Seen in Patients with Electroconvulsive Therapy (C.N.), 299, Oct. '55.
- Masserman, Jules H.: Psychotherapy—A Review and an Integration (Research Abstract), 294, Oct. '55.
- McGuire, H. T.: *See* Flaherty, J. A., jt. auth.
- Mearns, Ainslie: The Hysteroid Aspects of Hypnosis, 916, May '56.
- Menninger, Karl A.: Perspective in Psychiatric Research (Research Abstract), 289, Oct. '55.
- Merlis, Sidney: *See* Turner, Wm. J., jt. auth.
- Migeon, Claude J.: *See* Bliss, Eugene, jt. auth.
- Miles, James English: Psychosis with Phantom Limb Pain Treated by Chlorpromazine (C.R.), 1027, June '56.
- Miller, James G.: Criteria of Change in the Patient During Psychiatric Treatment and the Measurement of Change (Research Abstract), 289, Oct. '55.
- Miranda Ortiz, E.; and Gonzales Calzada, D.: Palliative Treatment of Poliomyelitis: Preliminary Report on Use of Colloidal Iodine Solution (C.N.), 206, Sept. '55.
- Montagu, M. F. Ashley: Contributions of Anthropology to Psychosomatic Medicine, 977, June '56.
- Montagu, M. F. Ashley: Man—and Human Nature, 401, Dec. '55.
- Moore, Merrill: Some Psychiatric Considerations Concerning Creative Writing and Criticism, 423, Dec. '55.
- Morris, H. H., Jr.; Escoll, P. J.; and Wexler, R.: Aggressive Behavior Disorders of Childhood: A Follow-up Study, 991, June '56.
- Morris, Robert R.: *See* Saver, Gordon, jt. auth.
- Moss, Leonard M.; and Hamilton, Donald M.: The Psychotherapy of the Suicidal Patient, 814, Apr. '56.
- Mudd, Emily Hartshorne: *See* Appel, Kenneth E., jt. auth.
- Mutter, Arthur Z.: *See* Silverman, Samuel, jt. auth.
- Myers, Jerome K.: *See* Roberts, Bertram H., jt. auth.

N

- Nadas, Endre: *See* Hertz, Philip E., jt. auth.
- Newcomb, Margaret L.: Psychiatric Social Work (Review of Psychiatric Progress, 1955), 553, Jan. '56.
- Noyes, Arthur P.: Presidential Address, 1, July '56.

O

- Olsen, Albert L.: *See* Pearl, David, jt. auth.
- Osmond, Humphrey: *See* Clancy, John, jt. auth.
- Overholser, Winfred: Administrative and Forensic Psychiatry (Review of Psychiatric Progress, 1955), 557, Jan. '56.

M

- MacDonald, John M.; and Galvin, James A. V.: Experimental Psychotic States, 970, June '56.
- Magnusson, Finn: *See* Cohen, Sanford I., jt. auth.
- Magraw, Richard M.: *See* Carey, James B., Jr., jt. auth.
- Mahl, George F.: *See* Lamb, Richard, jt. auth.

P

- Parsons, E. H.; Banet, S. R.; Keating, J. U.; and Lawrence, G. H.: *Modern Methods of Electroshock Therapy*, 18, July '55.
- Pasamanick, Benjamin; Rogers, Martha E.; and Lilienfeld, Abraham M.: *Pregnancy Experience and the Development of Behavior Disorder in Children*, 613, Feb. '56.
- Payn, Stephen B.: *Hypothermia Following Reserpine (C.R.)*, 657, Feb. '56.
- Pearl, David; Vander Kamp, Harry; Olsen, Albert L.; Greenberg, Paul D.; and Armitage, Stewart G.: *The Effects of Reserpine on Schizophrenic Patients (C.N.)*, 936, May '56.
- Pechtel, Curtis: *See Masserman, Jules H.*, jt. auth.
- Petersen, Magnus C.: *See Sem-Jacobsen, Carl W.*, jt. auth.
- Peterson, Donald B.: *The Psychiatric Operation, Army Forces, Far East, 1950-53. With Statistical Analysis*, 23, July '55.
- Phillips, Donald K.: *See Balser, Benjamin H.*, jt. auth.
- Piotrowski, Zygmunt A.; and Berg, Dorothy A.: *Verification of the Rorschach Alpha Diagnostic Formula for Underactive Schizophrenics*, 443, Dec. '55.
- Pisetsky, Joseph E.; and Brown, William: *Electroconvulsive Therapy 43 Days After Cardiac Surgery (C.R.)*, 303, Oct. '55.
- Pollack, Benjamin: *The Effect of Chlorpromazine on the Return Rate of 250 Patients Released from the Rochester State Hospital (C.N.)*, 937, May '56.

R

- Raskin, Naomi: *Intracranial Neoplasms in Psychotic Patients. Survey of 2,430 Consecutive Complete Autopsies Performed at the Boston State Hospital During the Period 1930-1950*, 481, Jan. '56.
- Reagan, Charles H.: *Psychiatric Methods of Treatment in a Neuropsychiatric Hospital*, 637, Feb. '56.
- Redlich, F. C.: *See Freedman, Daniel X.*, jt. auth.
- Redlich, F. C.: *See Hollingshead, A. B.*, jt. auth.
- Regan, Peter R., III: *See Greaves, Donald C.*, jt. auth.
- Reid, John R.; and Finesinger, Jacob E.: *Defenses: Their Nature and Function*, 1015, June '56.
- Rinaldi, Franco; Rudy, L. H.; and Himwich, H. E.: *Clinical Evaluation of Azacyclonol, Chlorpromazine, and Reserpine on a Group of Chronic Psychotic Patients*, 678, Mar. '56.
- Rinaldi, Franco; Rudy, L. H.; and Himwich, H. E.: *The Use of Frenkel in the Treatment of Disturbed Patients with Psychoses of Long Duration*, 343, Nov. '55.
- Rioux, Berchmans; and Gralnick, Alexander: *Strangulation of a Diaphragmatic Hernia as a Complication of Electric Shock Therapy (C.N.)*, 466, Dec. '55.
- Robinson, Robert L.: *See Blain, Daniel*, jt. auth.
- Roche, Philip Q.: *See Appel, Kenneth E.*, jt. auth.
- Rogers, Martha E.: *See Pasamanick, Benjamin*, jt. auth.

- Roth, Bernard: *See Kallman, Franz J.*, jt. auth.
- Rudy, L. H.: *See Rinaldi, Franco*, jt. auth.
- Ryan, W. Carson: *Mental Health in Education (Review of Psychiatric Progress, 1955)*, 544, Jan. '56.

S

- Salman, D. H.: *Development and Learning in Animals and Man (Research Abstract)*, 935, May '56.
- Samuels, Leo T.: *See Bliss, Eugene L.*, jt. auth.
- Saver, Gordon; Morris, Robert R.; and Giansiracusa, Joseph E.: *Psychotherapeutic Use of ACTH in Psychosomatic Disease. (A Case of Ulcerative Colitis)*, 55, July '55.
- Schapiro, H. M.: *An Unusual Complication Following a Single Electroshock Treatment (C.R.)*, 940, May '56.
- Schefflen, Albert E.: *See Blain, Daniel*, jt. auth.
- Schein, Edgar H.: *See Strassman, Harvey D.*, jt. auth.
- Schermerhorn, R. A.: *Psychiatric Disorders Among Negroes: A Sociological Note*, 878, May '56.
- Schmidt, Donald P.; and Cohen, David: *The Selection of Psychiatric Aides: I. Critical Requirements of the Job*, 451, Dec. '55.
- Schneck, Jerome M.: *Total Loss of Teeth in Dreams (C.N.)*, 939, May '56.
- Schneerson, F.: *Play and Neuroses of Children*, 41, July '55.
- Schrut, A. H.: *See Elliott, R. N.*, jt. auth.
- Sem-Jacobsen, Carl W.; Petersen, Magnus C.; Lazarte, Jorge A.; Dodge, Henry W., Jr.; and Holman, Colin B.: *Intracerebral Electrographic Recordings from Psychotic Patients During Hallucinations and Agitation. Preliminary Report*, 278, Oct. '55.
- Shagass, Charles: *Clinical Neurophysiological Studies of Affect (Research Abstract)*, 928, May '56.
- Shagass, Charles: *Differentiation between Anxiety and Depression by the Photically Activated Electroencephalogram*, 41, July '55.
- Shanahan, William M.: *Vagotomy—Five Years Later*, 140, Aug. '55.
- Showstack, Nathaniel: *Preliminary Report on the Psychiatric Treatment of Prisoners at the California Medical Facility*, 821, Apr. '56.
- Sifneos, A. Coit: *See Sifneos, Peter E.*, jt. auth.
- Sifneos, Peter E.; Gore, Charles; and Sifneos, A. Coit: *A Preliminary Psychiatric Study of Attempted Suicide as Seen in a General Hospital*, 883, May '56.
- Silver, Hyman: *See Zwerling, Israel*, jt. auth.
- Silverman, Albert J.: *See Cohen, Sanford I.*, jt. auth.
- Silverman, Samuel; and Mutter, Arthur Z.: *Supervision in Psychotherapy of Schizophrenia: I*, 436, Dec. '55.
- Skobba, Joseph S.: *Military Psychiatry (Review of Psychiatric Progress, 1955)*, 550, Jan. '56.
- Sleeper, Harold G.: *See Campbell, Coyne H.*, jt. auth.

Smith, Kathleen: *See* Ulett, George A., jt. auth.
 Smith, William G.: *See* Hammarsten, James F., jt. auth.

Smythies, John: *See* Clancy, John, jt. auth.
 Solomon, Rebecca; and Bliss, Eugene L.: Simultaneous Occurrence of Schizophrenia in Identical Twins, 912, May '56.
 Stefaniuk, Ben: *See* Clancy, John, jt. auth.
 Stiller, Rochus: *See* Tuteur, Werner, jt. auth.
 Stokes, A. B.: *See* Bonkalo, A., jt. auth.
 Strassman, Harvey D.; Thaler, Margaret B.; and Schein, Edgar H.: A Prisoner of War Syndrome: Apathy as a Reaction to Severe Stress, 998, June '56.
 Sussman, E.: *See* Lighthart, P. W. K., jt. auth.
 Swegan, William H.: *See* West, Louis Jolyon, jt. auth.
 Sweptson, Emil R.: *See* Fogel, Ernest J., jt. auth.
 Szatmari, A.: Clinical and Electroencephalogram Investigation on Largactil in Psychoses (Preliminary Study), 788, Apr. '56.

T

Thaler, Margaret B.: *See* Strassman, Harvey D., jt. auth.
 Thigpen, Corbett H.: *See* Cleckley, Hervey M., jt. auth.
 Tillim, Sidney J.: Agranulocytosis Associated with Chlorpromazine Therapy (C.N.), 1028, June '56.
 Timberlake, W. H.: Neurosyphilis (Review of Psychiatric Progress, 1955), 534, Jan. '56.
 Titchener, James: *See* Zwerling, Israel, jt. auth.
 Tizard, J.; and Venables, P. H.: Reaction Time Responses by Schizophrenics, Mental Defectives and Normal Adults, 803, Apr. '56.
 Tucker, Walter I.: Diagnosis and Treatment of the Phobic Reaction, 825, Apr. '56.
 Turk, R. E.: *See* Bennett, A. E., jt. auth.
 Turner, Wm. J.; Merlis, Sidney; and Carl, Ann: Concerning Theories of Indoles in Schizophrenogenesis (C.N.), 466, Dec. '55.
 Tuteur, Werner: Combined Reserpine-Chlorpromazine Therapy in Highly Disturbed Psychotics (C.N.), 206, Sept. '55.
 Tuteur, Werner: Sudden Death After Electric Shock Treatment Due to Tracheal and Bronchial Obstruction, 624, Feb. '56.
 Tuteur, Werner; Stiller, Rochus; Whitehill, Otto; and Lepson, David: Results with Chlorpromazine and Reserpine on Chronically Nude, Untidy, Destructive and Combative Patients (C.N.), 741, Mar. '56.

U

Ulett, George A.; Smith Kathleen; and Gleser, Goldine C.: Evaluation of Convulsive and Subconvulsive Shock Therapies Utilizing a Control Group, 795, Apr. '56.
 Ulett, George A.; Gleser, Goldine C.; Caldwell, Bettye M.; and Smith, Kathleen: The Use of Matched Groups in the Evaluation of Convulsive

and Subconvulsive Photoshock (Research Abstract), 290, Oct. '55.

V

Vahia, N. S.: Stupor Lasting More than Seven Years with Recovery (C.R.), 302, Oct. '55.
 Vander Kamp, Harry: *See* Pearl, David, jt. auth.
 Venables, P. H.: *See* Tizard, J., jt. auth.
 Vernier, Claire M.: *See* Fogel, Ernest J., jt. auth.

W

Walkenstein, Eileen: The Death Experience in Insulin Coma Treatment, 985, June '56.
 Weil, P. L.: *See* Fellner, C. H., jt. auth.
 Weschler, Charles H.: *See* Fogel, Ernest J., jt. auth.
 West, Louis Jolyon; and Swegan, William H.: An Approach to Alcoholism in the Military Service, 1004, June '56.
 West, Louis J.: *See* Greaves, Donald C., jt. auth.
 Wexler, R.: *See* Morris, H. H., Jr., jt. auth.
 Whitehill, Otto: *See* Tuteur, Werner, jt. auth.
 Whitehorn, John C.: Stress and Emotional Health, 773, Apr. '56.
 Whitehorn, John C.: Understanding Psychotherapy, 328, Nov. '55.
 Wiedorn, William S., Jr.: Psychological Effects of Cortisone in Acute Catatonic Excitement. A Case Report, 457, Dec. '55.
 Wikler, Abraham: The Uses of Drugs in Psychiatric Research, 961, June '56.
 Wojtkowski, Henry: *See* Hertz, Philip E., jt. auth.
 Wolpe, Joseph: Learning Versus Lesions as the Basis of Neurotic Behavior, 923, May '56.
 Wortis, Joseph: Physiological Treatment (Review of Psychiatric Progress, 1955), 526, Jan. '56.
 Wyatt, Frederick: Clinical Psychology (Review of Psychiatric Progress, 1955), 520, Jan. '55.

Y

Yerbury, Edgar C.: *See* Zeichner, Abraham M., jt. auth.

Z

Zax, M.: *See* Cowden, Richard C., jt. auth.
 Zeichner, Abraham M.; Holzberg, Jules D.; and Yerbury, Edgar C.: Psychological Services for Chronic Mental Patients in State and VA Hospitals, 430, Dec. '55.
 Zilboorg, Gregory: Psychoanalytic Borderlines, 706, Mar. '56.
 Zintek, Sylvester S.: *See* Fogel, Ernest J., jt. auth.
 Zwerling, Israel; Titchener, James; Gottschalk, Louis; Levine, Maurice; Culbertson, William; Cohen, Senta Feibleman; and Silver, Hyman: Personality Disorder and the Relationship of Emotion to Surgical Illness in 200 Surgical Patients, 270, Oct. '55.



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1. Seifter, J., et al.: To be published. 2. Fazekas, J.F., et al.: *M. Ann.* District of Columbia 25:67 (Feb.) 1956. 3. Mitchell, E.H.: *J.A.M.A.* In press.

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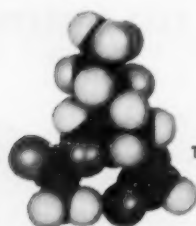
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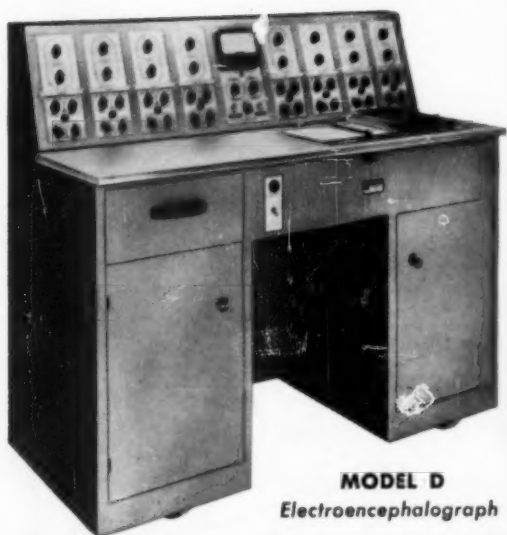
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LITERATURE ON REQUEST

1. Livingston, S., and Petersen, D.: *New England J. Med.* 254:327 (Feb. 16) 1956.
2. Pence, L. M.: *Texas State J. Med.* 50:290 (May) 1954.
3. Berman, B. A.: *Am. J. Psychiat.* 112:541 (Jan.) 1956.



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References:

1. Saltzman, C., Konikov, W., and Relyen, R. P.: *Dis. Nerv. System* 16:153, 1955. 2. Nowill, W. K., Wilson, W., and Borders, R.: *A.M.A. Arch. Neurol. & Psychiat.* 71:189, 1954. 3. Steven, R. J. M., Tovell, R. M., Johnson, J. C., and Delgado, E.: *Anesthesiology* 15:623, 1954. 4. Holmberg, G., et al.: *A.M.A. Arch. Neurol. & Psychiat.* 72:73, 1954. 5. Wilson, W. P., and Nowill, W. K.: *ibid.* 71:122, 1954.



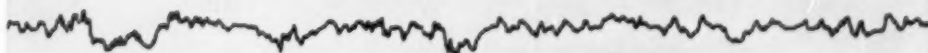
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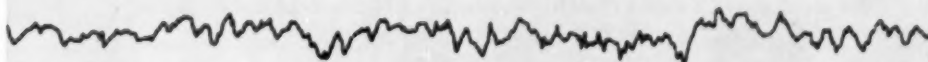
XXVIII

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1. Hollister, L. E., Krieger, G. E., Kringel, A., and Roberts, R. H.: *Ann. New York Acad. Sc.* 61:92 (April 15) 1955.
2. Hoffman, J. L., and Konchegul, L.: *Ann. New York Acad. Sc.* 61:144 (April 15) 1955. 3. Kline, N. S., and Stanley, A. M.: *Ann. New York Acad. Sc.* 61:85 (April 15) 1955.

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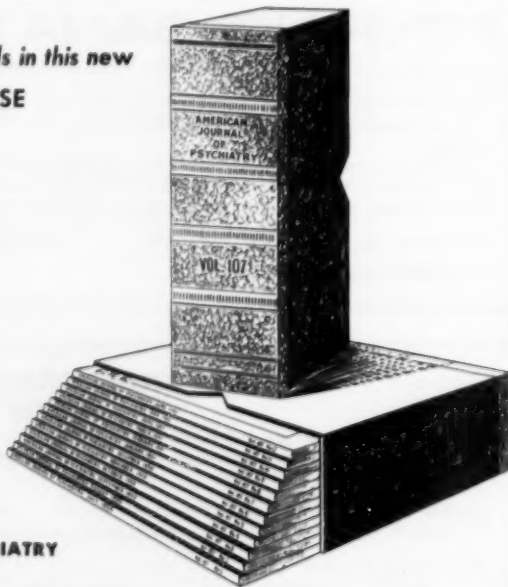
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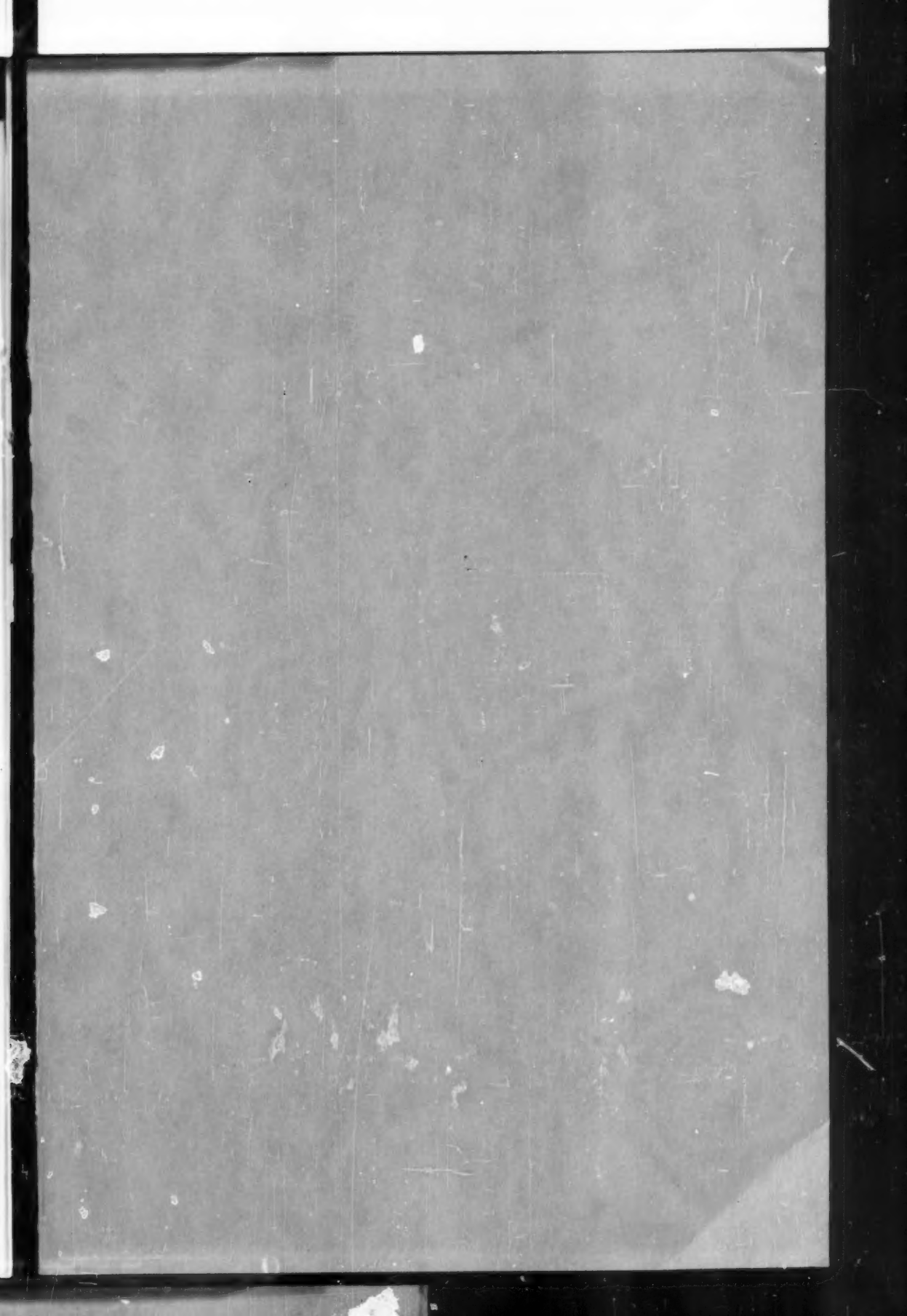
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